NETAFIM™

LANDSCAPE & TURF PRODUCT CATALOG

DRIP/MICRO IRRIGATION PRODUCTS

INTRODUCTION

With more than 45 years of experience in drip irrigation for demanding agricultural applications, Netafim has also been pioneering innovations in landscape drip irrigation for two decades.

OUR MISSION is to create a global paradigm shift in the application and use of water within the green industry. We will do this by providing technologically advanced and environmentally sound solutions to modern irrigation challenges, and by supporting our customers with education, training and insight into the smart use of water.

Netafim is the authority you can trust for unparalleled technical and customer support. We are here to help you succeed. We also offer some of the best warranties in the industry, so you can rest assured knowing your projects will continue to please even your toughest customers.

For more information about Netafim Landscape and Turf irrigation products please visit our web site at: www.netafimusa.com.

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TECHLINE® CV

Maximum Uniformity in Subsurface and On-Surface Including Slopes

17mm DRIPPERLINE

APPLICATIONS

- Subsurface or on-surface installations
- Slopes
- Longer lateral runs
- Curved, angular or narrow planting areas
- High traffic/high liability areas
- Areas subject to vandalism
- High wind areas
- Turf, shrubs, trees and flowers
- At-grade windows
- Sports turf, tennis courts, golf courses
- Green walls
- Rooftop gardens
- Raised planters
- Auto dealerships

SPECIFICATIONS

- Broadest choice of dripper flow rates: 0.26, 0.4, 0.6 and 0.9 GPH
- Dripper spacings: 12", 18" and 24" (24" spacing available for 0.6 and 0.9 GPH only)
- Pressure compensation range: 14.7 to 70 psi (stainless steel clamps recommended above 50 psi)
- Bending radius: 7"
- Maximum recommended system pressure: 50 psi
- Minimum pressure required: 14.7 psi
- Tubing diameter: 0.66" OD; 0.56" ID; 0.050" wall
- Coil length: 100', 250', 1,000'
- Recommended minimum filtration: 120 mesh
- Diaphragm made of silicon

FEATURES & BENEFITS

2 psi CHECK VALVE IN EACH DRIPPER

All drippers turn on and off at the same time, maximizing balance of application. Holds back up to 4 ½' of water (elevation change). No low emitter drainage, great on slopes. Delivers more precise watering.

PRESSURE COMPENSATING

Precise and equal amounts of water are delivered over a broad pressure range.

CONTINUOUS SELF-FLUSHING DRIPPER DESIGN

Flushes debris as it is detected, throughout operation, not just at the beginning or end of a cycle, ensuring uninterrupted dripper operation.

UNIQUE DRIPPER DESIGN WITH PHYSICAL ROOT BARRIER

Drippers resist root intrusion without chemical reliance.

EASY TO DESIGN IN SLOPE AND BERM APPLICATIONS

Check valve feature ensures water does not drain out of lower elevation drippers.

SELF-CONTAINED, ONE-PIECE DRIPPERLINE CONSTRUCTION

Assures reliable, easy installation.

FLEXIBLE UV RESISTANT TUBING

Adapts to any planting area shape - tubing curves at a 7" radius. For on-surface installations withstands heat and direct sun.

TECHLINE CV

Techline CV
the most advanced technology available

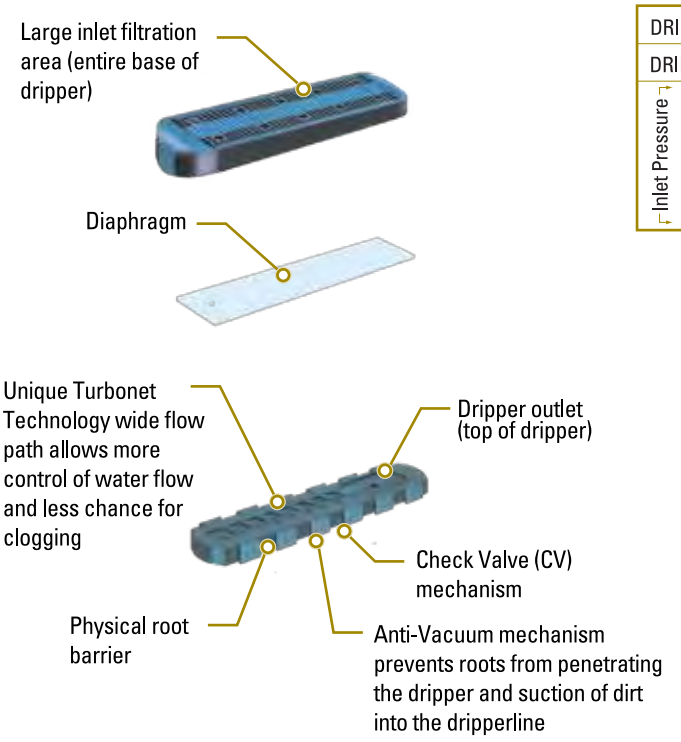
Water flows through the tubing and enters the dripper through the inlet filter. The filter blocks dirt and debris from entering, ensuring only clean water enters the dripperline.

GENERAL GUIDELINES

	TURF			SHRUB & GROUNDCOVER		
	CLAY SOIL	LOAM SOIL	SANDY SOIL	CLAY SOIL	LOAM SOIL	SANDY SOIL
DRIPPER FLOW	0.26 GPH	0.4 GPH	0.6 GPH	0.26 GPH	0.4 GPH	0.6 GPH
DRIPPER INTERVAL	18"	12"	12"	18"	18"	12"
LATERAL (ROW) SPACING	18" - 22"	18" - 22"	12" - 16"	18" - 24"	18" - 24"	16" - 20"
BURIAL DEPTH	Bury evenly throughout the zone from 4"to 6"			On-surface or bury evenly throughout the zone to a maximum of 6"		
APPLICATION RATE (INCHES/HOUR)	.19 - .15	.43 - .35	.96 - .72	.19 - .14	.29 - .21	.72 - .58
TIME TO APPLY ¼" OF WATER (MINUTES)	79 - 100	35 - 43	16 - 21	79 - 107	52 - 71	21 - 26

Following these maximum spacing guidelines, dripper flow selection can be increased if desired by the designer.
0.9 GPH flow rate available for areas requiring higher infiltration rates, such as coarse sandy soils.

EXPLODED VIEW OF TECHLINE CV DRIPPER


Large inlet filtration area (entire base of dripper)
Diaphragm
Unique Turbonet Technology wide flow path allows more control of water flow and less chance for clogging
Dripper outlet (top of dripper)
Check Valve (CV) mechanism
Physical root barrier
Anti-Vacuum mechanism prevents roots from penetrating the dripper and suction of dirt into the dripperline

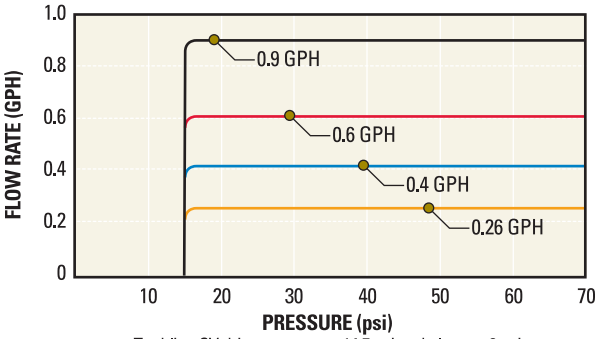
MAXIMUM LENGTH OF A SINGLE LATERAL (FEET)

DRIPPER SPACING		12"				18"				24"	
DRIPPER FLOW (GPH)		0.26	0.4	0.6	0.9	0.26	0.4	0.6	0.9	0.6	0.9
Inlet Pressure	20 psi	335	247	194	148	475	348	275	209	348	266
	25 psi	420	308	243	184	592	435	344	262	436	332
	35 psi	528	388	305	232	748	550	434	329	550	419
	45 psi	605	444	350	266	857	630	497	378	632	481

FLOW PER 100 FEET

DRIPPER SPACING	0.26 DRIPPER		0.4 DRIPPER		0.6 DRIPPER		0.9 DRIPPER	
	GPH	GPM	GPH	GPM	GPH	GPM	GPH	GPM
12"	26.40	0.44	40.00	0.67	61.00	1.02	92.00	1.53
18"	17.58	0.29	26.67	0.44	41.00	0.68	61.00	1.02
24"	Not Available		Not Available		31.00	0.51	46.00	0.77

FLOW RATE VS. PRESSURE LOSS



Techline CV drippers open at 14.7 psi and close at 2 psi.

TECHLINE® CV CONTINUED

SPECIFYING MODEL NUMBER

Reference for Ordering Information Chart

A Techline CV Dripperline = TLCV

SAMPLE MODEL NUMBER

1 2
TLCV4-1210
A 3

1 DRIPPER FLOW RATE

0.26 GPH	= 26
0.4 GPH	= 4
0.6 GPH	= 6
0.9 GPH	= 9

2 DRIPPER SPACING

12″	= 12
18″	= 18
24″	= 24

3 COIL LENGTH

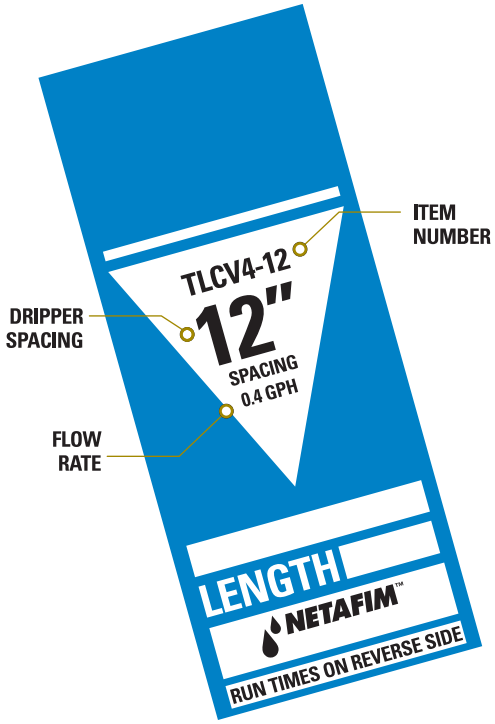
100′	= 01
250′	= 025
1,000′	= 10

BLANK TUBING MODEL NUMBERS:
1,000′ = TLCV010 250′ = TLCV0025 100′ = TLCV001

ORDERING INFORMATION

FLOW RATE	DRIPPER SPACING	COIL LENGTH	MODEL NUMBER	ITEM NUMBER
0.26 GPH	12″	1,000′	TLCV26-1210	14696-000004
		250′	TLCV26-12025	14696-000003
		100′	TLCV26-1201	14696-000035
	18″	1,000′	TLCV26-1810	14696-000006
		250′	TLCV26-18025	14696-000005
		100′	TLCV26-1801	14696-000036
0.4 GPH	12″	1,000′	TLCV4-1210	14696-000008
		250′	TLCV4-12025	14696-000007
		100′	TLCV4-1201	14696-000037
	18″	1,000′	TLCV4-1810	14696-000010
		250′	TLCV4-18025	14696-000009
		100′	TLCV4-1801	14696-000038
0.6 GPH	12″	1,000′	TLCV6-1210	14696-000012
		250′	TLCV6-12025	14696-000011
		100′	TLCV6-1201	14696-000039
	18″	1,000′	TLCV6-1810	14696-000014
		250′	TLCV6-18025	14696-000013
		100′	TLCV6-1801	14696-000040
	24″	1,000′	TLCV6-2410	14696-000016
		250′	TLCV6-24025	14696-000015
		100′	TLCV6-2401	14696-000041
0.9 GPH	12″	1,000′	TLCV9-1210	14696-000018
		250′	TLCV9-12025	14696-000017
		100′	TLCV9-1201	14696-000042
	18″	1,000′	TLCV9-1810	14696-000020
		250′	TLCV9-18025	14696-000019
		100′	TLCV9-1801	14696-000043
	24″	1,000′	TLCV9-2410	14696-000022
		250′	TLCV9-24025	14696-000021
		100′	TLCV9-2401	14696-000044
BLANK TUBING		1,000′	TLCV010	14696-000002
		250′	TLCV0025	14696-000001
		100′	TLCV001	14696-000034

DRIPPERLINE LABELS



THE NETAFIM COIL LABEL

Netafim offers Techline® CV, Techline® RW and Techline® EZ in a wide range of flow rates and dripper spacings. To make product identification easy, each Netafim coil has a bright colored label, which designates the flow rate, and a large graphic shape, which indicates dripper spacing. Selecting the coil with the right dripper spacing and the right flow rate is easy, even from a distance.

SHAPE	SPACING
NO SHAPE	6" SPACING
▼	12" SPACING
■	18" SPACING
●	24" SPACING

COLOR	FLOW RATE
	0.26 GPH
	0.4 GPH
	0.6 GPH
	0.9 GPH

QUICK GUIDE TO IRRIGATION SCHEDULING

The flip-side of the Techline CV, Techline RW and Techline EZ (500' and 1000' coils only) label includes a contractor's quick-guide for station run times. Desired application rates (inches per hour) are based on the distance between dripperline laterals and the number of minutes needed to apply ¼" of water.

For help in selecting the best product for plant or turf grass, using soil type as the criteria, consult your Netafim USA Authorized Distributor.

MODEL # TLCV26-12
0.26 GPH
12" SPACING

STATION RUN TIME (MINUTES)
Distance Between Dripperline Laterals

	12"	14"	16"	18"	20"	22"	24"
TIME TO APPLY ¼" OF WATER	36	42	48	54	60	66	72
APPLICATION RATE (IN/HR)	0.42	0.36	0.31	0.28	0.25	0.23	0.21

To select the best dripperline spacing and flow rate for your plant or turfgrass, based on soil type, consult Distributor personnel, Netafim's Product Catalog and Design Manual or go to www.netafimusa.com.

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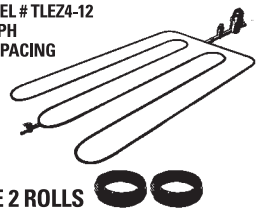
WE MADE IT EVEN EASIER

Techline EZ labels for 200', 250' and 300' coils include a quick reference for square feet of area covered and minutes to apply ½" of water based on the distance between laterals when the minimum pressure is 25 psi.

MODEL # TLEZ4-12
0.4 GPH
12" SPACING



USE 2 ROLLS

DISTANCE BETWEEN LATERALS	COVERS UP TO SQ. FT	MINUTES TO APPLY ¼" OF WATER
12"	400	22
14"	467	26
16"	533	30
18"	600	33
20"	667	37
22"	733	41
24"	800	45

Minimum Pressure: 25 psi

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TECHLINE® EZ

Ideal for Small and Medium Areas

12mm DRIPPERLINE

APPLICATIONS

- On-surface installations or covered with a layer of mulch
- Bed areas that require shorter lateral lengths
- Areas subject to vandalism
- Planting areas
- Curved, narrow, and angular planting areas
- Flower beds, trees, and shrubs
- Rooftop gardens
- Green walls
- High traffic or high liability areas
- Raised planters

SPECIFICATIONS

- 0.26, 0.4, 0.6 and 0.9 GPH flow
- 6", 12" and 18" spacing (6" spacing available for 0.26 and 0.4 GPH only)
- Uses 12mm Netafim Insert Fittings or any compensation fitting for .426" diameter tubing
- Minimum bending radius: 6"
- Maximum System Pressure: 50 psi
- Tubing diameter: .510" OD; .426" ID
- Recommended minimum filtration: 120 mesh
- Diaphragm made of silicon

FEATURES & BENEFITS

THE FIRST ANTI-SIPHON DRIPPER IN LANDSCAPE DRIPPERLINE

Dripper manufactured and successfully used in harsh agricultural applications since 2000. Dripper is pressure compensating and continuous flushing.

LESS VISUALLY OBTRUSIVE

12mm diameter tubing is less noticeable in landscape installations.

LESS TIME TO INSTALL

Simple loop systems cover up to 1800 square feet of plant bed area with as few as two fittings.

QUALIFIES FOR LEED PROJECTS

Contains the required quantity of post-industrial and post-consumer recycled material and therefore is the only dripperline that qualifies for use on LEED projects.

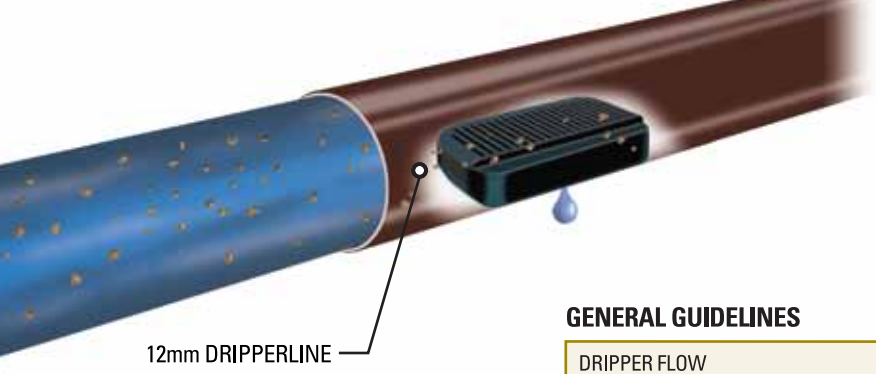
EXTEND THE COVERAGE OF A TECHLINE CV OR TECHLINE SYSTEM

Techline EZ has the same flow recommendations and dripper spacings.

MORE COST EFFECTIVE IN SMALLER BED AREAS

23% smaller diameter tubing with 62% run length of 17mm tubing. (Based on 0.9 GPH 12" comparison to Techline CV.)

TECHLINE EZ
250' COIL



Techline EZ

one coil, two fittings, less than one hour installation

GENERAL GUIDELINES

	SHRUB & GROUNDCOVER		
	CLAY SOIL	LOAM SOIL	SANDY SOIL
DRIPPER FLOW	0.26 GPH	0.4 GPH	0.6 GPH
DRIPPER INTERVAL	18"	18"	12"
LATERAL (ROW) SPACING	18" - 24"	18" - 24"	16" - 20"
APPLICATION RATE (INCHES/HOUR	.19 - .14	.29 - .21	.72 - .58
TIME TO APPLY ¼" OF WATER (MINUTES)	79 - 107	52 - 71	21 - 26

Following these maximum spacing guidelines, dripper flow selection can be increased if desired by the designer.
0.9 GPH flow rate available for areas requiring higher infiltration rates, such as coarse sandy soils.

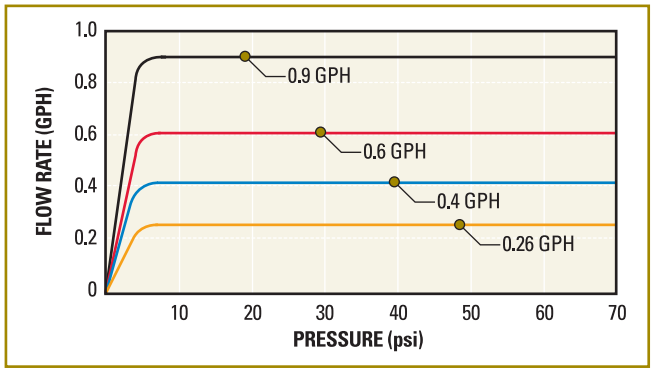
FLOW PER 100 FEET

DRIPPER SPACING	0.26 DRIPPER		0.4 DRIPPER		0.6 DRIPPER		0.9 DRIPPER	
	GPH	GPM	GPH	GPM	GPH	GPM	GPH	GPM
6"	52	0.87	80	1.33	Not Available		Not Available	
12"	26	0.43	40	0.67	61	1.02	92	1.53
18"	17	0.28	26	0.44	41	0.68	61	1.02

MAXIMUM LENGTH OF A SINGLE LATERAL (FEET)

DRIPPER SPACING		6"		12"				18"			
DRIPPER FLOW (GPH)		0.26	0.4	0.26	0.4	0.6	0.9	0.26	0.4	0.6	0.9
Inlet Pressure	15 psi	128	93	240	176	139	105	341	251	198	150
	25 psi	164	120	308	226	179	136	440	323	255	194
	35 psi	189	138	356	261	206	157	508	374	296	224
	45 psi	209	153	394	289	227	173	563	414	326	248

FLOW RATE VS. PRESSURE LOSS



SPECIFYING MODEL NUMBER

Reference for Ordering Information Chart

A — Techline EZ Dripperline = TLEZ

SAMPLE MODEL NUMBER: TLEZ4-1210 (1 = 4, 2 = 12, A = TLEZ, 3 = 10)

1 DRIPPER FLOW RATE
0.26 GPH = 26
0.4 GPH = 4
0.6 GPH = 6
0.9 GPH = 9

2 DRIPPER SPACING
6" = 6
12" = 12
18" = 18

3 COIL LENGTH
200' = 02
250' = 025
300' = 03
500' = 05
1,000' = 10

BLANK TUBING MODEL NUMBERS:
500' = TLEZ005 250' = TLEZ0025

ORDERING INFORMATION

FLOW RATE	DRIPPER SPACING	COIL LENGTH	MODEL NUMBER	ITEM NUMBER
0.26 GPH	6"	300'	TLEZ26-0603	10051-000001
		500'	TLEZ26-0605	10051-000002
		1000'	TLEZ26-0610	10051-000003
	12"	300'	TLEZ26-1203	10051-000004
		500'	TLEZ26-1205	10051-000005
		1000'	TLEZ26-1210	10051-000006
	18"	300'	TLEZ26-1803	10051-000007
		500'	TLEZ26-1805	10051-000008
		1000'	TLEZ26-1810	10051-000009
0.4 GPH	6"	200'	TLEZ4-0602	10051-000010
		500'	TLEZ4-0605	10051-000011
		1000'	TLEZ4-0610	10051-000012
	12"	200'	TLEZ4-1202	10051-000013
		500'	TLEZ4-1205	10051-000014
		1000'	TLEZ4-1210	10051-000015
	18"	200'	TLEZ4-1802	10051-000016
		500'	TLEZ4-1805	10051-000017
		1000'	TLEZ4-1810	10051-000018
0.6 GPH	12"	300'	TLEZ6-1203	10051-000019
		500'	TLEZ6-1205	10051-000020
		1000'	TLEZ6-1210	10051-000021
	18"	250'	TLEZ6-18025	10051-000022
		500'	TLEZ6-1805	10051-000023
		1000'	TLEZ6-1810	10051-000024
0.9 GPH	12"	200'	TLEZ9-1202	10051-000025
		500'	TLEZ9-1205	10051-000026
		1000'	TLEZ9-1210	10051-000027
	18"	200'	TLEZ9-1802	10051-000028
		500'	TLEZ9-1805	10051-000029
		1000'	TLEZ9-1810	10051-000030
BLANK TUBING		250'	TLEZ0025	10051-000031
		500'	TLEZ005	10051-000032

TECHLINE® RW (RECLAIMED WATER)

17mm DRIPPERLINE

APPLICATIONS

- Reclaimed (recycled) water use
- For irrigation with non-potable/ reclaimed water and soil loading

SPECIFICATIONS

- Manufactured with purple stripe for non-potable water applications
- Dripper flow rates: 0.4, 0.6 and 0.9 GPH
- Dripper spacing 12", 18" and 24"
- Pressure compensation range: 7 to 70 psi
- Maximum recommended system pressure: 50 psi
- Tubing diameter: 0.66" OD; 0.56" ID; 0.050" wall
- Recommended filtration: 120 mesh
- Uses 17mm fittings and accessories
- Coil length: 1,000'
- Diaphragm made of silicon

FEATURES & BENEFITS

UNIQUE PATENTED PRESSURE DIFFERENTIAL MECHANISM

Provides high emission uniformity.

PATENTED, CONTINUOUS SELF-FLUSHING, FREE-FLOATING DRIPPER DIAPHRAGM

Allows the dripper to cleanse itself anytime during operation.

LARGE TURBONET DRIPPER FLOW PATH

Allows particles to pass freely.

RAISED DRIPPER DESIGN (0.26" FROM THE WALL OF THE DRIPPERLINE)

Prevents sediment from entering the dripper when the system is not in operation.

CHEMICAL AND WEAR RESISTANT

Helps maintaining its design flow over many years of use.

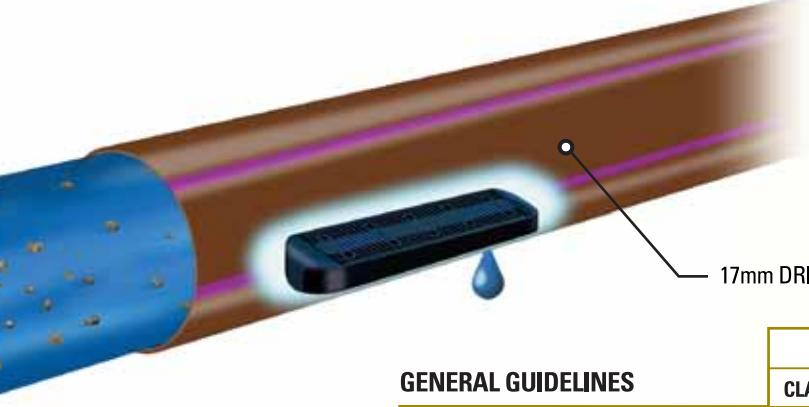
DRIPPER WITH ANTI-SIPHON FEATURE

Prevents ingestion of debris into tubing caused by vacuum.

TECHLINE RW
Purple striped dripperline warns use of non-potable water

TECHLINE RW IS DESIGNED FOR RECLAIMED WATER USE ONLY

Reclaimed, reuse or recycled water is municipally-treated, non-potable water deemed appropriate for use in irrigation systems and not wastewater being dispersed into the soil for additional treatment. Please consult your local Water Management District for regulations regarding the type of water being used, and its proper system design. Netafim USA can provide assistance on drip dispersal that use primary or secondary and tertiary wastewater. Please contact Netafim USA Customer Service for more information.



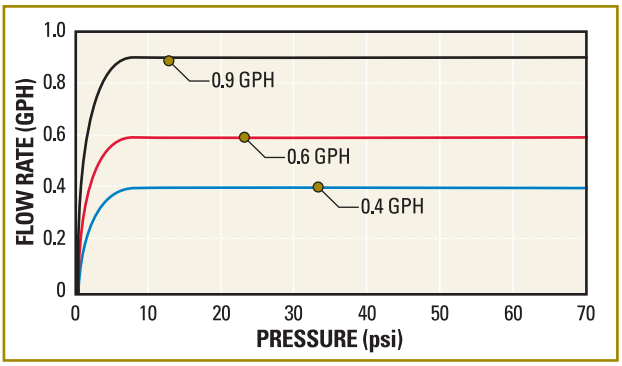
Most reliable
pressure compensating dripperline for reclaimed water

GENERAL GUIDELINES

	TURF			SHRUB & GROUNDCOVER		
	CLAY SOIL	LOAM SOIL	SANDY SOIL	CLAY SOIL	LOAM SOIL	SANDY SOIL
DRIPPER FLOW	0.26 GPH	0.4 GPH	0.6 GPH	0.26 GPH	0.4 GPH	0.6 GPH
DRIPPER INTERVAL	18"	12"	12"	18"	18"	12"
LATERAL (ROW) SPACING	18" - 22"	18" - 22"	12" - 16"	18" - 24"	18" - 24"	16" - 20"
BURIAL DEPTH	Bury evenly throughout the zone from 4"to 6"			On-surface or bury evenly throughout the zone to a maximum of 6"		
APPLICATION RATE (INCHES/HOUR)	.19 - .15	.43 - .35	.96 - .72	.19 - .14	.29 - .21	.72 - .58
TIME TO APPLY ¼" OF WATER (MINUTES)	79 - 100	35 - 43	16 - 21	79 - 107	52 - 71	21 - 26

Following these maximum spacing guidelines, dripper flow selection can be increased if desired by the designer.
0.9 GPH flow rate available for areas requiring higher infiltration rates, such as coarse sandy soils.

FLOW RATE VS. PRESSURE LOSS



FLOW PER 100 FEET

DRIPPER SPACING	0.4 DRIPPER		0.6 DRIPPER		0.9 DRIPPER	
	GPH	GPM	GPH	GPM	GPH	GPM
12"	40.00	0.67	61.00	1.02	92.00	1.53
18"	26.67	0.44	41.00	0.68	61.00	1.02
24"	20.00	0.33	31.00	0.51	46.00	0.77

MAXIMUM LENGTH OF A SINGLE LATERAL (FEET)

DRIPPER SPACING		12"			18"			24"	
DRIPPER FLOW (GPH)		0.4	0.6	0.9	0.4	0.6	0.9	0.6	0.9
Inlet Pressure	15 psi	278	210	170	378	299	227	378	288
	25 psi	3364	286	218	515	406	308	516	392
	35 psi	425	336	255	603	476	363	606	462
	45 psi	474	374	284	672	532	404	675	515

SPECIFYING MODEL NUMBER

Reference for Ordering Information Chart

SAMPLE MODEL NUMBER

A Techline Dripperline for Reclaimed Water = **TLRW**

1 DRIPPER FLOW RATE
0.4 GPH = **4**
0.6 GPH = **6**
0.9 GPH = **9**

2 DRIPPER SPACING
12" = **12**
18" = **18**
24" = **24**

3 COIL LENGTH
1,000' = **10**

ORDERING INFORMATION

FLOW RATE	DRIPPER SPACING	COIL LENGTH	MODEL NUMBER	ITEM NUMBER
0.4 GPH	12"	1,000'	TLRW4-1210	10066-000057
	18"	1,000'	TLRW4-1810	10066-000058
	24"	1,000'	TLRW4-2410	10066-000059
0.6 GPH	12"	1,000'	TLRW6-1210	10066-000060
	18"	1,000'	TLRW6-1810	10066-000061
	24"	1,000'	TLRW6-2410	10066-000062
0.9 GPH	12"	1,000'	TLRW9-1210	10066-000063
	18"	1,000'	TLRW9-1810	10066-000064
	24"	1,000'	TLRW9-2410	10066-000065

TECHFILTER® SYSTEM

APPLICATIONS

- Recommended for use with all new Techline CV and Techline RW subsurface installations

SPECIFICATIONS

- Filtration: 120 mesh
- Maximum pressure: 140 psi (filter)
- Filter available in ¾", 1", 1" Long, 1 ½" Long & 2"
- Available with Techline CV or Techline RW Dripperline (see ordering information)

FEATURES & BENEFITS

HELPS ELIMINATE ROOT INTRUSION

Evenly delivers a low concentration of trifluralin to all drippers throughout the system.

REPLACEABLE TECHFILTER CARTRIDGE

Easy, no-touch installation and replacement of trifluralin disc rings. Allows for renewal of protection.

SEALED PACKAGING DRAMATICALLY EXTENDS SHELF LIFE

Adds to filter replacement convenience.

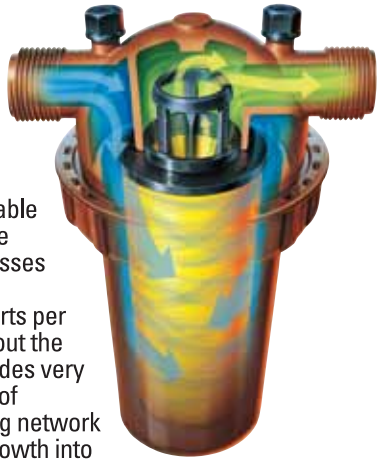
PROVIDES ULTRA-EFFICIENT WATER FILTRATION

Performance far superior to screen-type filters.

OPPORTUNITY FOR A LIFETIME OF PROTECTION

Renewable warranty activated when filter cartridges are installed and registered.

INSURANCE AGAINST ROOT INTRUSION



Our revolutionary Techfilter protects against roots invading the system. Here's how it works: trifluralin is incorporated into the replaceable disc ring assemblies inside the filter housing. When water passes through the filter, a very low concentration of trifluralin (parts per billion) is transmitted throughout the system. This technology provides very precise and even distribution of trifluralin throughout the piping network and effectively inhibits root growth into the dripper outlets.

EXCLUSIVE NETAFIM USA TECHFILTER LIMITED LIFETIME EXTENDED WARRANTY

Every Netafim Techfilter carries a 2-Year-to-Lifetime Warranty. Proper use and timely replacement of the cartridge will keep the Lifetime Extended Warranty in force. Replaceable Techfilter disc cartridges come in conveniently sealed packages with gloves which have two benefits: extended shelf life and simple, clean replacement of the complete cartridge without having to touch the rings.

MAXIMUM AND MINIMUM TOTAL DRIPPERLINE LENGTH PER FILTER SIZE (FEET)

	DRIPPER FLOW →	0.26 GPH		0.4 GPH		0.6 GPH		0.9 GPH	
	DRIPPER SPACING →	12"	18"	12"	18"	12"	18"	12"	18"
¾" FILTER	Min. FLOW 1 GPM	220	328	143	213	98	114	65	98
	Max. FLOW 7 GPM	1,534	2,300	1,000	1,489	686	795	458	686
1" FILTER	Min. FLOW 3 GPM	657	986	429	638	294	341	196	294
	Max. FLOW 22 GPM	4,823	7,234	3,143	4,681	2,157	2,500	1,438	2,157
1" LONG OR 1 ½" LONG FILTER	Min. FLOW 8 GPM	1,753	2,630	1,143	1,702	784	909	523	784
	Max. FLOW 40 GPM	8,770	13,153	5,714	8,511	3,922	4,545	2,614	3,922
2" FILTER	Min. FLOW 14 GPM	3,070	4,603	2,000	2,979	1,373	1,591	915	1,373
	Max. FLOW 90 GPM	19,730	29,596	12,857	19,149	8,824	10,227	5,882	8,824

TECHFILTER® CONTINUED

SPECIFYING MODEL NUMBER

Reference for Ordering Information Chart

A Techfilter = **TLCV**

SAMPLE MODEL NUMBER

TF075912-100CV

(A) (1) (2) (3) (4) (5)

1 FILTER SIZE

¾" = **075**
1" = **10**
1" Long = **10L**
1 ½" Long = **15L**
2" = **20**

2 DRIPPER FLOW

0.26 GPH = **26**
0.4 GPH = **4**
0.6 GPH = **6**
0.9 GPH = **9**

3 DRIPPER SPACING

12" = **12**
18" = **18**

4 QUANTITY OF DRIPPERLINE

The length of Techline CV or Techline RW is supplied with each filter ordered. See Maximum and Minimum Dripperline Length Chart.

5

Add CV to end of model number to indicate Techline CV.
Add RW to end of model number to indicate Techline RW.

TECHFILTER REPLACEMENT CARTRIDGE KIT ORDERING INFORMATION

FILTER SIZE	MODEL NUMBER
¾"	TF075-120
1"	TF100-120
1" Long & 1 ½" Long	TF100L-120
2"	TF200-120

Due to state EPA regulations, Techfilter is not available in South Dakota.

¾" TECHFILTER ORDERING INFORMATION

TECHLINE CV	TECHLINE RW	DRIPPER FLOW RATE (GPH)				DRIPPER SPACING		ROLLS SUPPLIED		
MODEL NUMBER	MODEL NUMBER	0.26	0.4	0.6	0.9	12"	18"	100'	250'	1,000'
TF0752612-100CV	-	✓				✓		1		
TF0752612-1000C	-	✓				✓				1
TF0752618-200CV	-	✓					✓	2		
TF0752618-1000C	-	✓					✓			1
TF075412-100CV	-		✓			✓		1		
TF075412-1000CV	TF075412-1000RW		✓			✓				1
TF075418-200CV	-		✓				✓	2		
TF075418-1000CV	TF075618-1000RW		✓				✓			1
TF075612-100CV	-			✓		✓		1		
TF075612-1000CV	TF075612-1000RW			✓		✓				1
TF075618-200CV	-			✓			✓	2		
TF075618-1000CV	TF075618-1000RW			✓			✓			1
TF075912-100CV	-				✓	✓		1		
TF075912-250CV	-				✓	✓			1	
TF075912-1000CV	TF075912-1000RW				✓	✓				1
TF075918-100CV	-				✓		✓	1		
TF075918-1000CV	TF075918-1000RW				✓		✓			1

1" TECHFILTER ORDERING INFORMATION

TECHLINE CV	TECHLINE RW	DRIPPER FLOW RATE (GPH)				DRIPPER SPACING		ROLLS SUPPLIED		
MODEL NUMBER	MODEL NUMBER	0.26	0.4	0.6	0.9	12"	18"	100'	250'	1,000'
TF102612-400CV	-	✓				✓		4		
TF102612-1000CV	-	✓				✓				1
TF102618-600CV	-	✓					✓	1	2	
TF102618-1000CV	-	✓					✓			1
TF10412-400CV	-		✓			✓		4		
TF10412-1000CV	TF10412-1000RW		✓			✓				1
TF10418-600CV	-		✓				✓	1	2	
TF10418-1000CV	TF10418-1000RW		✓				✓			1
TF10612-300CV	-			✓		✓		3		
TF10612-1000CV	TF10612-1000RW			✓		✓				1
TF10618-350CV	-			✓			✓	1	1	
TF10618-1000CV	TF10618-1000RW			✓			✓			1
TF10912-100CV	-				✓	✓		1		
TF10912-200CV	-				✓	✓		2		
TF10912-1000CV	TF10912-1000RW				✓	✓				1
TF10918-300CV	-				✓		✓	3		
TF10918-1000CV	TF10918-1000RW				✓		✓			1

1" LONG TECHFILTER ORDERING INFORMATION

TECHLINE CV	TECHLINE RW	DRIPPER FLOW RATE (GPH)				DRIPPER SPACING		ROLLS SUPPLIED		
MODEL NUMBER	MODEL NUMBER	0.26	0.4	0.6	0.9	12"	18"	100'	250'	1,000'
TF10L2612-1000CV	-	✓				✓				1
TF10L2618-1000CV	-	✓					✓			1
TF10L412-100CV	-		✓			✓		1		
-	TF10L412-1000RW		✓			✓				1
TF10L412-110CV	-		✓			✓		1		1
TF10L418-1000CV	TF10L418-1000RW		✓				✓			1
TF10L418-1700CV	-		✓				✓	2	2	1
TF10L612-800CV	-			✓		✓		3	2	
TF10L612-1000CV	TF10L612-1000RW			✓		✓				1
TF10L618-900CV	-			✓			✓	4	2	
TF10L618-1000CV	TF10L618-1000RW			✓			✓			1
TF10L912-100CV	-				✓			1		
TF10L912-500CV	-				✓	✓			2	
TF10L912-1000CV	TF10L912-1000RW				✓	✓				1
TF10L918-800CV	-				✓	✓	✓	3	2	
TF10L918-1000CV	TF10L918-1000RW				✓		✓			1

1½" LONG TECHFILTER ORDERING INFORMATION

TECHLINE CV	TECHLINE RW	DRIPPER FLOW RATE (GPH)				DRIPPER SPACING		ROLLS SUPPLIED		
MODEL NUMBER	MODEL NUMBER	0.26	0.4	0.6	0.9	12"	18"	100'	250'	1,000'
TF15L2612-1000CV	-	✓				✓				1
TF15L2618-1000CV	-	✓					✓			1
TF15L412-1000CV	TF15L412-1000RW		✓			✓				1
TF15L412-1100CV	-		✓			✓		1		1
TF15L418-1000CV	TF15L418-1000RW		✓				✓			1
TF15L612-800CV	-			✓		✓		3	2	
TF15L612-1000CV	TF15L612-1000RW			✓		✓				1
TF15L618-900CV	-			✓			✓	4	2	
TF15L618-1000CV	TF15L618-1000RW			✓			✓			1
TF15L912-100CV	-				✓	✓		1		
TF15L912-500CV	-				✓	✓			2	
TF15L912-1000CV	TF15L912-1000RW				✓	✓				1
TF15L918-800CV	-				✓		✓	3	2	
TF15L918-1000CV	TF15L918-1000RW				✓		✓			1

2" TECHFILTER ORDERING INFORMATION

TECHLINE CV	TECHLINE RW	DRIPPER FLOW RATE (GPH)				DRIPPER SPACING		ROLLS SUPPLIED		
MODEL NUMBER	MODEL NUMBER	0.26	0.4	0.6	0.9	12"	18"	100'	250'	1,000'
TF202612-1000CV	-	✓				✓				1
TF202618-2000CV	-	✓					✓			2
TF202618-3000CV	-	✓					✓			3
TF20412-2000CV	-		✓			✓				2
TF20412-100CV	TF20412-1000RW		✓			✓				1
TF20418-1000CV	TF20418-1000RW		✓				✓			1
TF20418-3000CV	-		✓				✓			3
TF20612-1400CV	-			✓		✓		4		1
TF20612-1000CV	TF20612-1000RW			✓		✓				1
TF20618-1600CV	-			✓			✓	1	2	1
TF20618-1000CV	TF20618-1000RW			✓			✓			1
TF20912-100CV	-				✓	✓		1		
TF20912-1400CV	TF20912-1000RW				✓	✓				1
TF20918-1400CV	-				✓		✓	4		1
TF20918-1000CV	TF20918-1000RW				✓		✓			1

17mm FITTINGS & INSTALLATION TOOLS

FOR TECHLINE® CV & TECHLINE® RW

APPLICATIONS

- Fits Techline CV and Techline RW Dripperlines, and PE irrigation hose with inside diameters of 0.56" and 0.60"

SPECIFICATIONS

- Maximum recommended system pressure (without clamps): 50 psi
- Acceptable hose sizes: 0.56" - 0.60" inside diameter
- UV resistant

FEATURES & BENEFITS

BARBED FITTINGS

For secure fit and easy installation without clamps, glue or tools.

UV RESISTANT

Withstands heat, direct sun and harsh chemicals.

ONE-PIECE CONSTRUCTION

For added strength, durability and long-term performance.

ALLOWS FOR EASY ON-SITE INSPECTION

For proper fitting and installation.

WHEELBARROW TUBING DISPENSER
Model WBTD
Item 76601-005390

FOR PVC GREATER THAN 1½"

FOR 17mm DRIPPERLINE

Highest pressure rating
no clamps required

INSERT COUPLING
Model TLCOUP
Item 32500-003805

½" MPT ADAPTER
Model TL050MA
Item 32500-004420

INSERT ADAPTER FOR 1" OR LARGER PE
(requires 11mm or 7/16" punch)
Model TLIAPE-B
Item 32000-005120

INSERT ADAPTER FOR 1½" OR LARGER PVC
(requires TDBIT16.5)
Model TLIAPVC-B
Item 00135-000900

INSERT ELBOW
Model TLELL
Item 32500-005915

¾" MPT ADAPTER
Model TL075MA
Item 32500-004494

INSERT CROSS
Model TLCROS
Item 32500-006310

DRIPPER MICRO-TUBING ADAPTER
Model TLMTUBEADP
Item 32000-006315

INSERT TEE
Model TLTEE
Item 32500-004915

COMBINATION TEE INS X INS X ¾" FPT
Model TL075FTEE
Item 32500-004708

¾" MPT X 'V'
Model TL2W075MA
Item 32500-004605

6" SOIL STAPLE
Place approximately every 3' of tubing, plus two on each tee, elbow or cross
Model TLS6
Item 78201-011320

DRILL BIT FOR PVC INSERT ADAPTER
Model TDBIT16.5
Item 45000-002750

FIGURE 8 LINE END
Model TLFIG8
Item 32500-013015

SHUT-OFF VALVE INS X INS
Model TLSOV
Item 00005-008975

FPT = Female Pipe Thread, MPT = Male Pipe Thread, Ins x Ins = Insert by Insert

12mm FITTINGS & INSTALLATION TOOLS

FOR TECHLINE® EZ

APPLICATIONS

- Fits Techline EZ with inside diameter of 0.426"

SPECIFICATIONS

- Maximum recommended system pressure (without clamps): 50 psi
- Acceptable hose sizes: 0.426" inside diameter
- UV resistant

FEATURES & BENEFITS

BARBED FITTINGS

For secure fit and easy installation without clamps, glue or tools.

UV RESISTANT

Withstands heat, direct sun and harsh chemicals.

ONE-PIECE CONSTRUCTION

For added strength, durability and long-term performance.

ALLOWS FOR EASY ON-SITE INSPECTION

For proper fitting and installation.

FOR 12mm DRIPPERLINE

INSERT COUPLING
Model T12COUP
Item 32500-002239

REDUCING COUPLING 12MM BARB X 17MM BARB
Model T12RCOUP
Item 32500-004085

INSERT TEE
Model T12TEE
Item 32500-002497

INSERT ELBOW
Model T12ELL
Item 32500-003239

½" MPT ADAPTER
Model T12050MA
Item 32500-002284

¾" MPT ADAPTER
Model T12075MA
Item 32500-002440

COMBINATION TEE INS X INS X ¾" FPT
Model T12075FTEE
Item 32500-002740

INSERT ADAPTER FOR 1" OR LARGER PE
Model T12IAPE-B
Item 32500-003695

INSERT ADAPTER FOR 1½" OR LARGER PVC
Model T12IAPVC-B
Item 32500-003709

DRILL BIT FOR PVC INSERT ADAPTER
Model TDBIT16.0
Item 45000-003200

¾" MPT X 'V'
Model T122W075MA
Item 32500-002780

DRIPPERLINE VALVE
Model T12SOV
Item 32500-000830

FIGURE 8 LINE END
Model T12FIG8
Item 32500-003545

6" SOIL STAPLE
Place approximately every 3' of tubing, plus two on each tee, elbow or cross
Model TLS6
Item 78201-011320

SELF-PIERCING DRIPPERS

With Check Valve

APPLICATIONS

- For use with blank polyethylene tubing, Techline® CV and Techline® RW
- Install on-surface or subsurface
- Wide-spaced plantings
- Tree planting
- Hanging baskets
- Flower boxes
- Planters or pots

SPECIFICATIONS

- Flow rates: 0.5, 1.0 or 2.0 GPH
- Pressure compensation range: 7 to 50 psi
- Maximum pressure: 50 psi
- Uses 0.160" x 0.220" micro-tubing (Model EDTUBE - in black or white)
- Barb size: Inlet 0.160" - 0.170"
  Outlet 0.160"
- Recommended minimum filtration: 120 mesh

FEATURES & BENEFITS

SELF-PIERCING BARB

Easy to install, no tools required.

1.5 psi INTERNAL CHECK VALVE

Helps prevent low dripper drainage holding back up to a 3 ½' column of water. Can be used with Techline CV Dripperline.

ANTI-SIPHON OPERATION

Prevents contaminants from being drawn into the dripper.

PRESSURE COMPENSATING

Delivers the same flow from 7 to 50 psi.

SELF-CLEANING ACTION

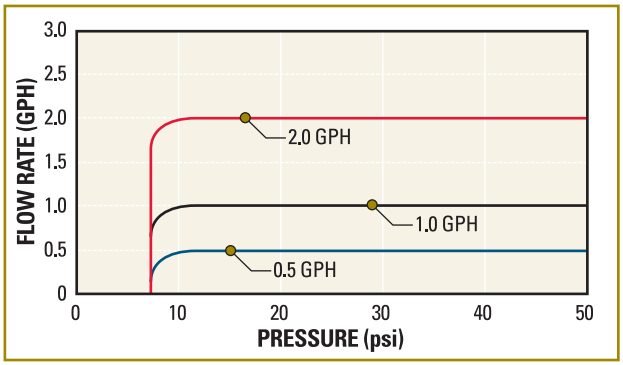
Exclusive TurboNet® flow path design regulates flow and provides continuous self-cleaning action during operation.

BLUE DRIPPER
0.5 GPH

BLACK DRIPPER
1.0 GPH

RED DRIPPER
2.0 GPH

FLOW RATE VS. PRESSURE LOSS



ORDERING INFORMATION

FLOW RATE	COLOR	BAG QUANTITY	MODEL NUMBER	ITEM NUMBER
0.5 GPH	BLUE	25	SPCV05-25	21520-003780
		100	SPCV05-100	21520-003790
		250	SPCV05-250	21520-003797
		1,000	SPCV05-1000	21520-003799
1.0 GPH	BLACK	25	SPCV10-25	21520-003807
		100	SPCV10-100	21520-003815
		250	SPCV10-250	21520-003820
		1,000	SPCV10-1000	21520-003828
2.0 GPH	RED	25	SPCV20-25	21520-003833
		100	SPCV20-100	21520-003837
		250	SPCV20-250	21520-003842
		1,000	SPCV20-1000	21520-003847

TECHFLOW DRIPPERS

Pressure Compensating Drippers

APPLICATIONS

- For use with systems with a wide range of pressure variations (7 to 60 psi)
- Install on-surface or subsurface
- Wide range of plant spacings
- Hanging baskets, flower baskets, pots, interiorscapes

SPECIFICATIONS

- Flow rates: 0.5, 1.0 or 2.0 GPH
- Pressure compensation range: 7 to 60 psi
- Maximum pressure: 60 psi
- Uses 0.160" x 0.220" micro-tubing (Model EDTUBE - in black or white)
- Barb size: Inlet 0.160" - 0.170"
  Outlet 0.160"
- Recommended filtration: 120 mesh

FEATURES & BENEFITS

UNIQUE DRIPPER DESIGN

Regulates flow and provides continuous self-cleaning action during operation.

5.0 psi INTERNAL CHECK VALVE

Helps prevent low dripper drainage by holding back up to an 11' column of water.

ANTI-SIPHON OPERATION

Prevents contaminates from being drawn into dripper.

COLOR-CODED DRIPPER

Denotes flow rate.

CAN BE USED WITH TECHLINE CV DRIPPERLINE

Without causing dripperline drainage.

RED
WPC DRIPPER
0.5 GPH

BLACK
WPC DRIPPER
1.0 GPH

GREEN
WPC DRIPPER
2.0 GPH

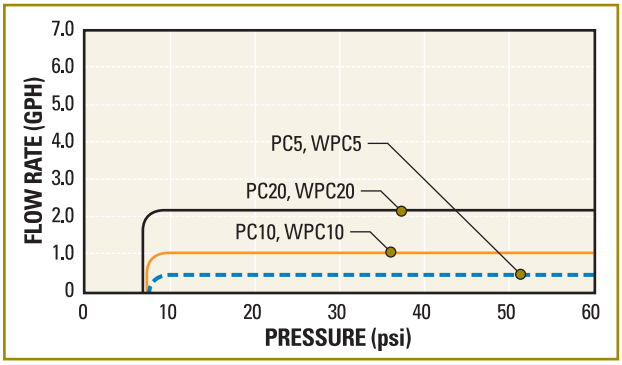
DRIPPER SHOWN ACTUAL SIZE

RED
PC DRIPPER
0.5 GPH

BLACK
PC DRIPPER
1.0 GPH

GREEN
PC DRIPPER
2.0 GPH

FLOW RATE VS. PRESSURE LOSS



BUG CAP

BARBED ADAPTER
ADAPTS TO ¼" BARB

ORDERING INFORMATION

FLOW RATE	COLOR	BAG QUANTITY	MODEL NUMBER	ITEM NUMBER
BARB INLET X NIPPLE OUTLET				
0.5 GPH	RED	25	WPC5	21020-001315
		250	WPC5-250	21020-001333
1.0 GPH	BLACK	25	WPC10	21020-001410
		250	WPC10-250	21020-001433
2.0 GPH	GREEN	25	WPC20	21020-001510
		250	WPC20-250	21020-001533
BARB INLET				
0.5 GPH	RED	25	PC5	21000-001510
		250	PC5-250	21000-001540
1.0 GPH	BLACK	25	PC10	21000-001610
		250	PC10-250	21000-001640
2.0 GPH	GREEN	25	PC20	21000-001710
		250	PC20-250	21000-001740
BUG CAP				
-	-	25	WPBC	27080-001710
BARBED ADAPTER				
-	-	25	11WPCON47-B	32000-002110

WPC SHOWN WITH
BUG CAP

WPC SHOWN WITH
BARBED ADAPTER

BD & WP DRIPPERS

Non-Pressure Compensating Drippers

APPLICATIONS

- Use in piping networks with limited pressure variation
- Planters and pots
- Wide-spaced plantings

SPECIFICATIONS

- Flow rates: 0.5, 1.0 or 2.0 GPH
- BD and WP models use 0.160" x 0.220" micro-tubing (Model EDTUBE)
- Barb size: Inlet 0.160" - 0.170"
  Outlet 0.160"
- Maximum pressure: 40 psi
- Recommended filtration: 120 mesh

FEATURES & BENEFITS

WIDE TURBULENT FLOW PASSAGE

Resists clogging. Works well in low pressure applications.

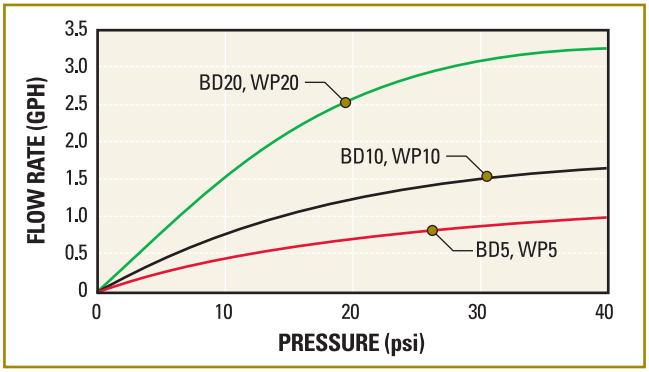
BARB INLET

For easier installations.

COLOR-CODED DRIPPER

Denotes flow rate.

FLOW RATE VS. PRESSURE LOSS



DRIPPERS SHOWN ACTUAL SIZE

RED BD DRIPPER
0.5 GPH

BLACK BD DRIPPER
1.0 GPH

GREEN BD DRIPPER
2.0 GPH

RED WP DRIPPER
0.5 GPH

BLACK WP DRIPPER
1.0 GPH

GREEN WP DRIPPER
2.0 GPH

BD DRIPPERS ORDERING INFORMATION

FLOW RATE	COLOR	BAG QUANTITY	MODEL NUMBER	ITEM NUMBER
0.5 GPH	RED	25	BD5	20000-001115
		250	BD5-250	00135-000780
1.0 GPH	BLACK	25	BD10	20000-001215
		250	BD10-250	00135-000760
2.0 GPH	GREEN	25	BD20	20000-001315
		250	BD20-250	00135-000770

WP DRIPPERS ORDERING INFORMATION

FLOW RATE	COLOR	BAG QUANTITY	MODEL NUMBER	ITEM NUMBER
0.5 GPH	RED	25	WP5	20020-001515
		250	WP5-250	00135-000740
1.0 GPH	BLACK	25	WP10	20020-001615
		250	WP10-250	00135-000730
2.0 GPH	GREEN	25	WP20	20020-001715
		250	WP20-250	00135-000735

POLYETHYLENE TUBING

APPLICATIONS

- For use with point source drip emitters, micro-spray or micro-sprinklers for irrigating ground cover, trees and shrub beds
- Provides flexible and durable header or transition to dripperline
- For on-surface or subsurface installations
- Positions on-line emission devices in hard to reach places

FEATURES & BENEFITS

SPEEDS INSTALLATION OF DRIP IRRIGATION SYSTEM

Allows for fast connections and easy layouts.

UV RESISTANT

Withstands heat, direct sun and harsh environments.

MANUFACTURED UNDER STRINGENT QUALITY CONTROLS

Assures highest quality as every coil undergoes a battery of over 30 quality checks.

MADE WITH THE FINEST LOW DENSITY POLYETHYLENE RESIN AVAILABLE

Available in black or white.

BLACK POLYETHYLENE
1,000' COIL

WHITE POLYETHYLENE
1,000' COIL

ORDERING INFORMATION

DESCRIPTION	PRESSURE RATING (psi)	COIL LENGTH (FT.)	MODEL NUMBER	ITEM NUMBER
BLACK POLYETHYLENE TUBING				
16MM O.D. (0.520" X 0.620", 0.050" WALL)	70	250'	14052062-25	40510-000026
		500'	14052062-05	40510-000025
		1,000'	14052062	40510-000003
½" (0.620" X 0.710", 0.045" WALL)	52	500'	14062071-05	40510-000052
		1,000'	14062071	40510-000007
½" (0.600" X 0.700", 0.050" WALL)	61	250'	14060070-25	40510-000201
		500'	14060070-05	40510-000036
		1,000'	14060070	40510-000005
¾" (0.820" X 0.940", 0.060" WALL)	54	500'	14082094	40510-000018
		1,000'	14082094-1000	40510-000071
1" (1.060" X 1.200", 0.070" WALL)	49	500'	14106120	40510-000020
WHITE POLYETHYLENE TUBING				
16MM O.D. (0.520" X 0.620", 0.050" WALL)	70	500'	14W052062-05	40510-000100
		1,000'	14W052062	40510-000098
½" (0.600" X 0.700", 0.050" WALL)	61	500'	14W060070-05	40510-000117
		1,000'	14W060070	40510-000102
¾" (0.820" X 0.940", 0.060" WALL)	54	500'	14W082094	40510-000105
1" (1.060" X 1.200", 0.070" WALL)	49	500'	14W106120	40510-000108

MICRO-TUBING

Available in White & Black Polyethylene

APPLICATIONS

- For extending the drip emitter outlet/discharge close to a tree or shrub
- For use with point source drip emitters on trees, shrub beds, potted plants and hanging baskets

SPECIFICATIONS

- ¼" (4/6mm) EDTUBE Black:
  0.160" ID, 0.220" OD, 0.030" wall
  100' or 1,000' lengths
- ¼" (4/7mm) EDTUBE White:
  0.156" ID, 0.264" OD, 0.054" wall
  100' or 1,000' lengths

FEATURES & BENEFITS

UV AND ACID RESISTANT POLYETHYLENE RESIN MATERIALS

Withstands hot and cold weather better than vinyl. Provides excellent hold characteristics on point source drip emitter barbed outlets and fittings in any kind of weather.

MANUFACTURED UNDER STRINGENT QUALITY CONTROLS

Assures highest quality product as every coil undergoes a battery of tests and over 30 quality checks.

WIDE COMPATIBILITY

Compatible with all brands and models of point source drippers that accept ¼" (0.160" ID) micro-tubing.

WHITE PE TUBING IS REFLECTIVE AND OPAQUE

Prevents algae growth. Produces cooler water temperatures - enhancing plant growth.

FRICTION LOSS PER 100 FEET

NOMINAL SIZE →		¼" EDTUBE BLACK		¼" EDTUBE WHITE	
FLOW RATE →		0.160" I.D 0.220" O.D. 0.030" WALL		0.156" I.D 0.264" O.D. 0.054" WALL	
GPM	GPH	VELOCITY FPS	LOSS psi	VELOCITY FPS	LOSS psi
0.01	0.50	0.13	0.08	0.14	0.09
0.02	1.00	0.27	0.27	0.28	0.31
0.03	2.00	0.53	0.92	0.56	1.04
0.05	3.00	0.80	1.87	0.84	2.11
0.07	4.00	1.06	3.09	1.12	3.49
0.08	5.00	1.33	4.57	1.40	5.16
0.10	6.00	1.60	6.29	1.68	7.10
0.12	7.00	1.86	8.24	1.96	9.29
0.13	8.00	2.13	10.40	2.24	11.74
0.15	9.00	2.39	12.79	2.52	14.43
0.17	10.00	2.66	15.38	2.80	17.35
0.20	12.00	3.19	21.15	3.36	23.87
0.23	14.00	3.72	27.70	3.92	31.26
0.27	16.00	4.26	35.00	4.48	39.49
0.30	18.00	4.79	43.01	5.04	48.53
0.33	20.00	5.32	51.72	5.60	58.36

ORDERING INFORMATION

COIL LENGTH	MODEL NUMBER	ITEM NUMBER
BLACK - 0.160" X 0.220"		
100'	EDTUBE-01	40001-000490
1,000'	EDTUBE-10	00135-000700
WHITE - 0.156" X 0.264"		
100'	EDTUBE-01W	00135-000690
1,000'	EDTUBE-10W	40001-000050

MICRO-TUBE FITTINGS

APPLICATIONS

- For extending the drip emitter outlet/discharge close to a tree or shrub
- For use with point source drip emitters on trees, shrub beds, potted plants and hanging baskets

FEATURES & BENEFITS

UV-RESISTANT POLYETHYLENE RESIN MATERIALS

Withstands hot and cold weather. Provides excellent hold characteristics on point source drip emitter barbed outlets and fittings in any kind of weather.

WIDE COMPATIBILITY

Compatible with all brands and models of ¼" micro-tubing.

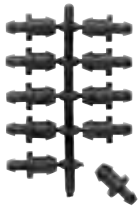
FITTINGS

¼" BARB TEE (0.160")
Model EDTUBETEE
Item 32500-001518

¼" MICRO-VALVE (0.160")
Model EDTUBEMVLV-B
Item 76220-009360

¼" BARB ADAPTER/COUPLER (0.160")
Model EDTUBEBA
Item 32000-001915

¼" TUBING STAKE
Model EDTUBESTK
Item 32000-001518



¼" / ⅜" GOOF PLUG (0.160" / 0.230")
Model GOOFPLUG
Item 32000-001015

¼" BARBED 8-WAY x ½" MPT ADAPTER
(0.160") for EDTUBE
Model EDTUBE8XMT
Item 32000-002310

INSTALLATION TOOLS

STEEL PUNCH FOR 0.160" MICRO FITTINGS
Model MTUBESPUN
Item 45000-001050

PLASTIC HANDLE PUNCH FOR 0.160" MICRO FITTINGS
Model MTUBEPPUN
Item 45000-001201

MANUAL DISC FILTERS

APPLICATIONS

- Residential
- Commercial
- Municipal
- Institutional

SPECIFICATIONS

- Maximum pressure: 140 psi
- Disc filter sizes:
  - ¾" up to 17 GPM
  - 1" up to 26 GPM
  - 1 ½" up to 35 GPM
  - 1 ½" Long up to 52 GPM
  - 2" up to 120 GPM
- Netafim offers filters up to 6,500 GPM

MATERIALS

- Filter body & cover: Reinforced polyamide
- Disc rings: Polypropylene
- O-Rings: EPDM rubber
- Clamps: Stainless steel

FEATURES & BENEFITS

DISC FILTER DESIGN

Collects debris along the depth of the discs, not just at the surface like screen filters.

100% THERMOPLASTIC DISCS

Corrosion resistant.

REPLACEMENT FILTER RINGS AVAILABLE

Color-coded for easy mesh identification.

EXTRA LARGE FILTRATION CAPACITY

Means less cleaning.

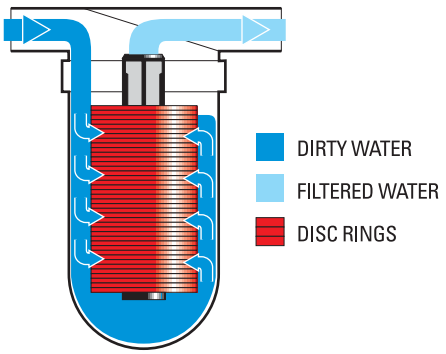
DISC FILTER TECHNOLOGY

Grooves in the disc rings criss-cross to form a network that traps debris between and on the outside of the discs.

HOW IT WORKS

As dirty water is pumped into the filter, and pressure increases, the water compresses the disc rings together tightly. The water is then forced to flow through the grooves of the disc rings, where debris is trapped, releasing only clean water to the irrigation system.

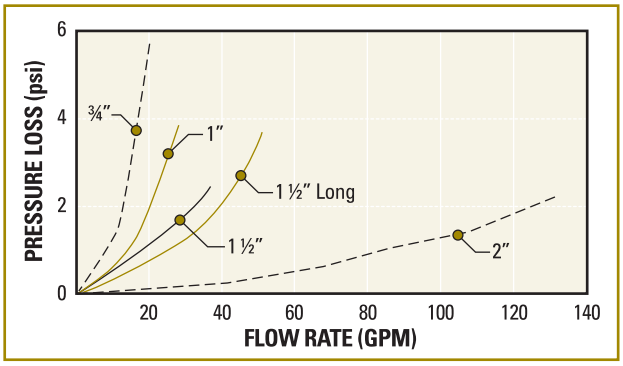
FILTRATION MODE



DISC FILTER RINGS

YELLOW	RED	BLACK	BROWN
80 MESH 200 MICRON	120 MESH 130 MICRON	140 MESH 115 MICRON	200 MESH 70 MICRON (2" ONLY)

FLOW RATE VS. PRESSURE LOSS



FLOW RATE VS. PRESSURE LOSS

FILTER SIZE	FILTER VOLUME (CU. IN.)	FILTRATION AREA (SQ. IN.)		FLOW RATE (GPM)												
				4.40	8.80	13.00	17.00	22.00	26.00	31.00	35.00	44.00	66.00	88.00	110.00	132.00
¾"	5.8	24.8	PRESSURE LOSS	0.40	1.46	3.40	5.62	-	-	-	-	-	-	-	-	-
1"	26.8	48.9		1.14	0.54	1.34	2.10	3.24	-	-	-	-	-	-	-	-
1 ½"	26.8	49.0		-	-	-	-	1.10	1.30	1.70	2.30	-	-	-	-	-
1 ½" LONG	36.1	77.8		-	-	-	-	1.10	1.20	1.20	1.50	3.20	-	-	-	-
2"	75.0	148.0		-	-	-	-	-	-	-	-	0.30	0.63	1.03	1.47	2.13

120 mesh when filter is in a clean state.

¾" FILTER
UP TO 17 GPM

¾" FILTER
WITH SHUT-OFF VALVE
UP TO 17 GPM

1" FILTER
UP TO 26 GPM

1½" FILTER
UP TO 35 GPM

1½" LONG FILTER
UP TO 52 GPM

2" FILTER
UP TO 120 GPM

ORDERING INFORMATION

FILTER SIZE	MESH	DISC FILTER MODEL NUMBER	DISC FILTER ITEM NUMBER	REPLACEMENT FILTER RINGS MODEL NUMBER	REPLACEMENT FILTER RINGS ITEM NUMBER
¾"	80	DF075-080	00135-000010	DFR075080	00135-000230
	120	DF075-120	00135-000020	DFR075120	00135-000240
	140	DF075-140	00135-000030	DFR075140	00135-000250
¾" WITH SHUT-OFF VALVE	80	DFV075-080	00135-000370	DFR075080	00135-000230
	120	DFV075-120	00135-000380	DFR075120	00135-000240
	140	DFV075-140	00135-000390	DFR075140	00135-000250
1"	80	DF100-080	00135-000050	DFR150080*	00135-000260
	120	DF100-120	00135-000060	DFR150120*	00135-000270
	140	DF100-140	00135-000070	DFR150140*	00135-000280
1 ½"	80	DF150-080	00135-000090	DFR150080*	00135-000260
	120	DF150-120	00135-000100	DFR150120*	00135-000270
	140	DF150-140	00135-000110	DFR150140*	00135-000280
1 ½" LONG	80	DF150S-080	00135-000140	DFR150L080*	00135-000300
	120	DF150S-120	00135-000150	DFR150L120*	00135-000310
	140	DF150S-140	00135-000160	DFR150L140*	00135-000320
2"	80	DF200-080	00135-000190	DFR200080	00135-000330
	120	DF200-120	00135-000200	DFR200120	00135-000340
	140	DF200-140	00135-000210	DFR200140	00135-000350
	200	DF200-200	00135-000220	DFR200200	00135-000360

*Ring set and filter spine.

2" COMPACT LP DISC-KLEEN FILTER

Automatic
Self-Cleaning
Disc Filter

APPLICATIONS

- Irrigation systems with a capacity of 1 to 80 GPM requiring clean water to operate drippers
- For areas without electricity
- When automation is desirable because manual cleaning is frequent and too cumbersome
- For residential, commercial, industrial, parks, municipal and non-potable water sources

SPECIFICATIONS

- Inlet: 2" male pipe threaded
- Outlet: 2" female pipe threaded
- Flush port: 2" female pipe threaded
- Maximum operating pressure:
  - Standard and Low Flow Models: 90 psi
  - High Pressure Model available: 140 psi
- Minimum pressure for backflush: 30 psi
- Minimum flow for backflush:
  - Standard Flow Model: 35 GPM
  - Low Flow Model: 20 GPM
- Minimum allowable pH: 5
- Weight: 32 lbs.

MATERIALS

- Flush valves: Plastic
- Seals: Nitrilo rubber, EPDM
- Filter and spine: Polypropylene
- Discs: Polypropylene
- Clamp and screws: Stainless steel

FEATURES & BENEFITS

PROVEN DISC TECHNOLOGY DEPTH FILTRATION

Provides highly effective filtering.

MADE OF NON-CORROSIVE MATERIALS

Prevents rusting and corrosion from chemicals and weather.

COMPACT PRE-ASSEMBLED UNIT FOR EASY INSTALLATION

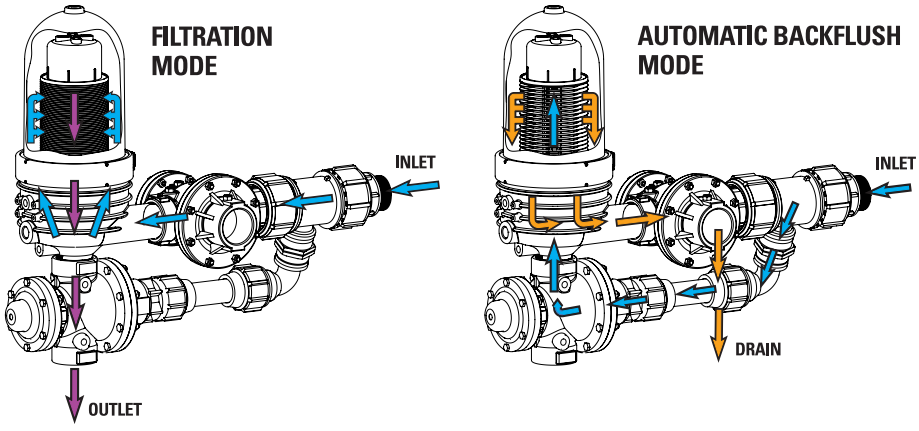
Fits in tight spaces, saves space. Factory assembled and tested. Delivered ready for hook-up and immediate operation.

LESS BACKFLUSH TIME REQUIRED

Optimizes irrigation with a more uniform application of water.

INCLUDES BACKFLUSH CONTROLLER

AC model uses 110VAC power. DC model uses two 9 volt lithium batteries.



DISC FILTER TECHNOLOGY

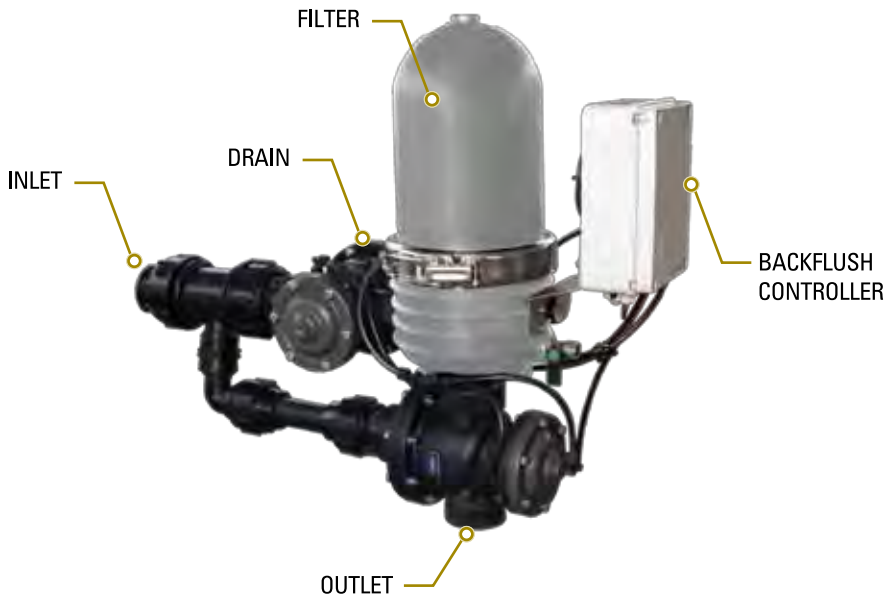
Grooves in the disc rings criss-cross to form a network that traps debris between and on the outside of the discs.

HOW IT WORKS

As dirty water is pumped into the filter, and pressure increases, the water compresses the disc rings together tightly. The water is then forced to flow through the grooves of the disc rings, where debris is trapped, releasing only clean water to the irrigation system.

AUTOMATIC BACKFLUSH TECHNOLOGY

The discs separate and nozzles spray the discs with clean water - inside and out, removing debris.



STANDARD FLOW MODEL MAXIMUM FLOW RATE (GPM)

WATER QUALITY*	80 & 120 MESH	140 MESH
GOOD	80	70
AVERAGE	70	60
POOR	55	50
VERY POOR	35	30

LOW FLOW MODEL MAXIMUM FLOW RATE (GPM)

WATER QUALITY*	80 & 120 MESH	140 MESH
GOOD	50	40
AVERAGE	40	30
POOR	30	20
VERY POOR	20	10

*WATER QUALITY

Good Water Quality: Municipal water supply or well water from a clean aquifer with no sand, iron or manganese.

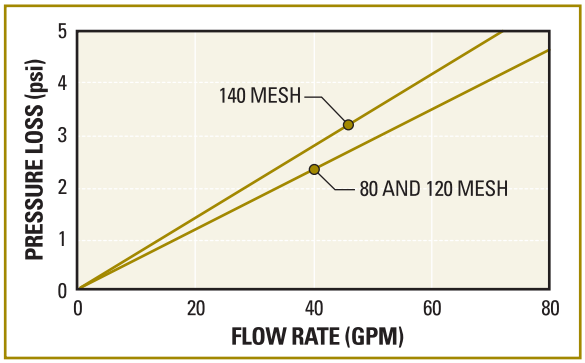
Average Water Quality: Wells with small amounts of sand (< 2 ppm) or clean surface water which includes lakes, ponds, reservoirs and canals.

Poor Water Quality: Well water with sand up to 10 ppm or surface water in hot climates with increased biological growth and no chemical treatment which includes lakes, ponds, reservoirs and canals.

Very Poor Water Quality: Well water with greater than 10 ppm of sand including rivers, muddy canals, lakes and ponds with severe run off deposits and raw municipal wastewater.

Greater than 3 ppm Sand or Silt: May require a pre-filter such as a hydrocyclone.

FLOW RATE VS. PRESSURE LOSS



FLOW RATE VS. PRESSURE LOSS

FLOW RATES (GPM)	10	20	30	40	50	60	70	80
PRESSURE LOSS (psi)	0.2	0.5	1	1.4	2	3	4	5

120 mesh when filter is in a clean state.

ORDERING INFORMATION

DESCRIPTION	MESH	AC MODEL NUMBER	DC MODEL NUMBER
STANDARD FLOW MODEL, 1-80 GPM	80	DFALP200-080AC	DFALP200-080DCL
	120	DFALP200-120AC	DFALP200-120DCL
	140	DFALP200-140AC	DFALP200-140DCL
LOW FLOW MODEL, 1-50 GPM	80	DFALPLF200-080AC	DFALPLF200-080DCL
	120	DFALPLF200-120AC	DFALPLF200-120DCL
	140	DFALPLF200-140AC	DFALPLF200-140DCL

Filter includes backflush controller.
For High Pressure 2" Compact LP Disc-Kleen Filters (above 90 psi), call Customer Service at (888) NETAFIM.

2" AND 3" LP DISC-KLEEN FILTERS

For 50 to 800 GPM Flow Rates

APPLICATIONS

- For surface water containing algae and other organic materials such as reservoirs, canals, rivers and wastewater applications
- Residential and multi-family developments
- Commercial landscapes, institutional parks, sports fields
- Golf courses
- Large landscape installations

SPECIFICATIONS

- 2" drain manifold inlet and outlet connections: Grooved
- Backflush valve flush port: 2" MPT
- Maximum operating pressure:
  Standard model: 90 psi
  High pressure model: 140 psi
- Minimum backflush pressure required:
  Standard model: 30 psi
  High pressure model: 40 psi
- Minimum backflush flow rate:
  2" Filter: 35 GPM
  3" Filter: 70 GPM
- Minimum allowable pH: 5
- Inlet/outlet: 4" grooved - 2" Disc-Kleen
  6" grooved - 3" Disc-Kleen
- Includes backflush controller

MATERIALS

- Manifold: Polypropylene
- Filter Body: Polypropylene
- Discs: Polypropylene
- O-Rings and Seals: EPDM

FEATURES & BENEFITS

PROVEN DEPTH FILTRATION

Collects debris along the depth of the discs, not just at the surface like screen filters.

MADE OF NON-CORROSIVE MATERIALS

Prevents rusting and corrosion from chemicals and weather.

QUICK INSTALLATION

Factory assembled and tested. Delivered ready for hook-up and immediate operation.

SMALL FOOTPRINT

Saves valuable space.

LESS BACKFLUSH TIME REQUIRED

Optimizes irrigation scheduling for uniform watering.

3" LP DISC-KLEEN FILTER
4-UNIT

2" LP DISC-KLEEN FILTER
3-UNIT

WATER QUALITY*
MAXIMUM FLOW RATE (GPM)

MESH COLOR →	YELLOW	RED	BLACK
MESH SIZE →	80	120	140
MICRON SIZE	200	130	115
2" X 2 FILTER			
Good	160	155	145
Average	150	140	130
Poor	130	120	90
Very Poor	80	70	60
2" X 3 FILTER			
Good	240	230	220
Average	225	210	195
Poor	195	180	135
Very Poor	120	105	90
2" X 4 FILTER			
Good	320	310	290
Average	300	280	260
Poor	260	240	180
Very Poor	160	140	120
3" X 3 FILTER			
Good	480	465	435
Average	450	420	390
Poor	380	340	270
Very Poor	240	210	180
3" X 4 FILTER			
Good	640	620	580
Average	600	560	500
Poor	500	450	340
Very Poor	320	280	240
3" X 5 FILTER			
Good	800	775	725
Average	750	700	600
Poor	650	525	400
Very Poor	400	350	300

*WATER QUALITY

Good Water Quality: Municipal water supply or well water from a clean aquifer with no sand, iron or manganese.

Average Water Quality: Wells with small amounts of sand (< 2 ppm) or clean surface water which includes lakes, ponds, reservoirs and canals.

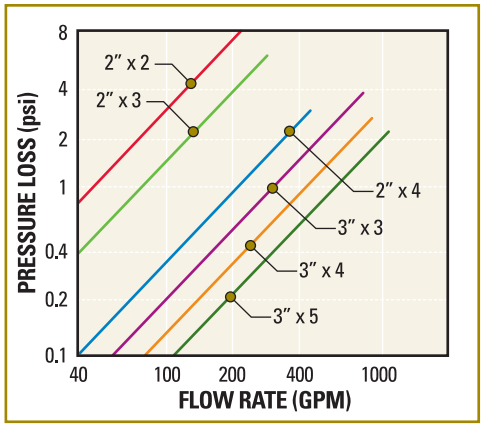
Poor Water Quality: Well water with sand up to 10 ppm or surface water in hot climates with increased biological growth and no chemical treatment which includes lakes, ponds, reservoirs and canals.

Very Poor Water Quality: Well water with greater than 10 ppm of sand including rivers, muddy canals, lakes and ponds with severe run off deposits and raw municipal wastewater.

Greater than 3 ppm Sand or Silt: May require a pre-filter such as a hydrocyclone.

Proven depth filtration technology optimizes irrigation and saves water

FLOW RATE VS. PRESSURE LOSS



120 mesh when filter is in a clean state.

ORDERING INFORMATION

NUMBER OF FILTERS	MESH	MODEL NUMBER
2" LP DISC-KLEEN		
2	80	DFALP202 - 080AC
	120	DFALP202 - 120AC
	140	DFALP202 - 140AC
3	80	DFALP203 - 080AC
	120	DFALP203 - 120AC
	140	DFALP203 - 140AC
4	80	DFALP204 - 080AC
	120	DFALP204 - 120AC
	140	DFALP204 - 140AC
3" LP DISC-KLEEN		
3	80	DFALP303 - 080AC
	120	DFALP303 - 120AC
	140	DFALP303 - 140AC
4	80	DFALP304 - 080AC
	120	DFALP304 - 120AC
	140	DFALP304 - 140AC
5	80	DFALP305 - 080AC
	120	DFALP305 - 120AC
	140	DFALP305 - 140AC

2" LP Disc-Kleen with 4" Grooved Manifold
3" LP Disc-Kleen with 6" Grooved Manifold

Filter includes 110 VAC backflush controller.

For High Pressure models (above 90 psi), call Customer Service at (888) NETAFIM.

GALAXY DISC-KLEEN FILTERS

High Capacity Water Filtration System

APPLICATIONS

- For surface water containing algae and other organic materials such as reservoirs, canals, rivers and reclaimed water applications
- Residential and multi-family developments
- Commercial landscapes, institutional parks, sports fields
- Golf courses
- Large landscape installations

SPECIFICATIONS

- 4" drain manifold inlet/outlet connections: Flanged
- Maximum operating pressure:
  Standard model: 90 psi
  High pressure model: 140 psi
- Minimum pressure required for backflush: 40 psi downstream of filters during backflush
- Maximum operating temperature: 158˚ F
- Minimum allowable pH: 5
- Minimum operating pressure for filtration: 20 psi
- Backflush flow rate @ 40 psi: 175 GPM
- Includes backflush controller

MATERIALS

- Manifold: High density polypropylene
- Filter body and cover: Glass reinforced polyamide
- Discs: Polypropylene
- Backflush Valve: Plastic with reinforced polyamide

FEATURES & BENEFITS

PROVEN DEPTH FILTRATION

Collects debris along the depth of the discs, not just at the surface like screen filters.

MADE OF NON-CORROSIVE MATERIALS

Prevents rusting and corrosion from chemicals and weather.

QUICK INSTALLATION

Factory assembled and tested. Delivered ready for hook-up and immediate operation.

SMALL FOOTPRINT

Saves valuable space.

LESS BACKFLUSH TIME REQUIRED

Optimizes irrigation scheduling for uniform watering.

80 MESH WATER QUALITY MAXIMUM FLOW RATE (GPM)

YELLOW

WATER QUALITY*	3 UNITS	4 UNITS	5 UNITS	6 UNITS	7 UNITS	8 UNITS	9 UNITS	10 UNITS
GOOD	1,200	1,600	2,000	2,400	2,800	3,200	3,600	4,000
AVERAGE	1,125	1,500	1,875	2,250	2,625	3,000	3,375	3,750
POOR	940	1,250	1,550	1,850	2,150	2,450	2,750	3,100
VERY POOR	600	800	1,000	1,200	1,400	1,600	1,800	2,000

120 MESH WATER QUALITY MAXIMUM FLOW RATE (GPM)

RED

WATER QUALITY*	3 UNITS	4 UNITS	5 UNITS	6 UNITS	7 UNITS	8 UNITS	9 UNITS	10 UNITS
GOOD	1,200	1,600	2,000	2,400	2,800	3,200	3,600	4,000
AVERAGE	1,100	1,460	1,825	2,200	2,560	2,950	3,300	3,650
POOR	884	1,179	1,474	1,769	2,064	2,358	2,655	2,950
VERY POOR	541	722	902	1,082	1,263	1,443	1,623	1,804

140 MESH WATER QUALITY MAXIMUM FLOW RATE (GPM)

BLACK

WATER QUALITY*	3 UNITS	4 UNITS	5 UNITS	6 UNITS	7 UNITS	8 UNITS	9 UNITS	10 UNITS
GOOD	1,200	1,600	2,000	2,400	2,800	3,200	3,600	4,000
AVERAGE	900	1,300	1,650	1,980	2,310	2,640	2,970	3,300
POOR	660	880	1,100	1,320	1,540	1,760	1,980	2,200
VERY POOR	436	581	726	871	1,016	1,162	1,310	1,454

*WATER QUALITY

Good Water Quality: Municipal water supply or well water from a clean aquifer with no sand, iron or manganese.

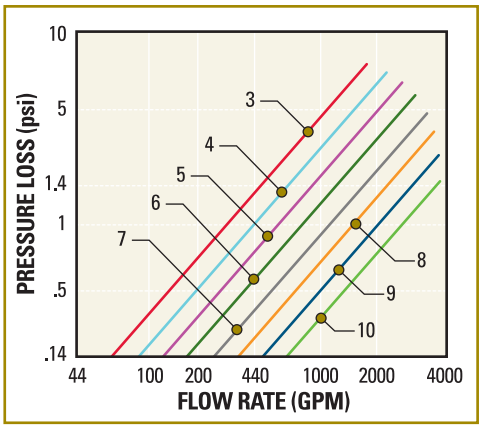
Average Water Quality: Wells with small amounts of sand (< 2 ppm) or clean surface water which includes lakes, ponds, reservoirs and canals.

Poor Water Quality: Well water with sand up to 10 ppm or surface water in hot climates with increased biological growth and no chemical treatment which includes lakes, ponds, reservoirs and canals.

Very Poor Water Quality: Well water with greater than 10 ppm of sand including rivers, muddy canals, lakes and ponds with severe run off deposits and raw municipal wastewater.

Greater than 3 ppm Sand or Silt: May require a pre-filter such as a hydrocyclone.

FLOW RATE VS. PRESSURE LOSS



120 mesh when filter is in a clean state.

ORDERING INFORMATION

NUMBER OF FILTERS	MESH	MODEL NUMBER
3	80	DFAG03 - 080AC
	120	DFAG03 - 120AC
	140	DFAG03 - 140AC
4	80	DFAG04 - 080AC
	120	DFAG04 - 120AC
	140	DFAG04 - 140AC
5	80	DFAG05 - 080AC
	120	DFAG05 - 120AC
	140	DFAG05 - 140AC
6	80	DFAG06 - 080AC
	120	DFAG06 - 120AC
	140	DFAG06 - 140AC
7	80	DFAG07 - 080AC
	120	DFAG07 - 120AC
	140	DFAG07 - 140AC
8	80	DFAG08 - 080AC
	120	DFAG08 - 120AC
	140	DFAG08 - 140AC
9	80	DFAG09 - 080AC
	120	DFAG09 - 120AC
	140	DFAG09 - 140AC
10	80	DFAG10 - 080AC
	120	DFAG10 - 120AC
	140	DFAG10 - 140AC

Filter includes 110 VAC backflush controller.

For High Pressure models (above 90 psi), call Customer Service at (888) NETAFIM.

SERIES 80 NYLON CONTROL VALVES

Improved Solenoid Provides Longer Wire Runs

APPLICATIONS

- Residential or commercial landscape irrigation applications
- For mild corrosive and mild acidity levels in the water
- For remote control, master valve and automated operations
- Reclaimed/reuse applications including municipally treated reclaimed water designated for irrigation

SPECIFICATIONS

- Recommended flow range:
  ¾" - 0.01 to 26 GPM
  1" - 0.01 to 44 GPM
  1 ½" - 0.25 to 110 GPM
  2" - 0.25 to 176 GPM
- Minimum operating pressure: 7 psi
- Maximum operating pressure: 145 psi
- Water Temperature: up to 140˚ F
- SOLENOID:
  Volts: 24VAC standard ± 10% voltage
  Optional: 24VDC, 12VDC, 12VDC-latching, 120VAC
  Inrush current: 0.220 A
  Holding current: 0.095 A

MATERIALS

- Body, bonnet, seat and diaphragm: Glass Reinforced Polyamide (GRP)
- Nuts, bolts and washers: Stainless Steel 304
- Spring: Stainless Steel AISI 302

FEATURES & BENEFITS

SIMPLE TO OPERATE AND MAINTAIN

Uniquely designed for simple in-line installation. Minimum maintenance, maximum dependability. Captured bolts make easy service for contractors – if needed.

ROBUST FLOW CONTROL STEM AND MANUAL OVERRIDE

Flow control stem allows manual control from full closure up to maximum capacity while solenoid manual override handle enables internal bleed to manually open the valve.

RELIABLE EVEN AT HARSH CONDITIONS

Durable, corrosion free materials. Clog-free labyrinth inlet for command water makes sure the valve is suitable for reclaimed water applications.

STABLE SOLENOID

Low sensitivity to dirt and voltage fluctuations. Compatible with most continuous current controllers. Exceptionally low inrush and holding current allow the largest wire run from valve to controller in the industry.

TIGHT SEALING VALVE WITH FULLY SUPPORTED DIAPHRAGM

The Series 80 valve is suitable for high pressure application where constant upstream pressure is supplied 24/7. Series 80 valves react quickly to opening and closing.

INTEGRAL STAINLESS STEEL EASYCLEAN® FILTER

For 1½" and 2" models only.

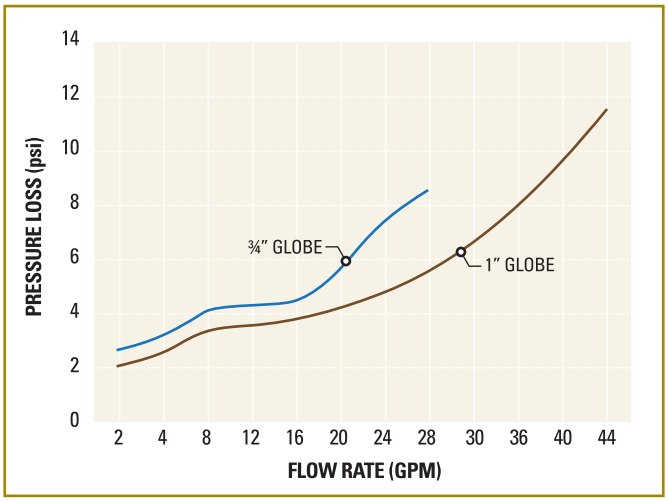
LOW FLOW CAPABILITY

¾" and 1" valves minimum flow 0.01 GPM.
1½" and 2" valves minimum flow 0.25 GPM.

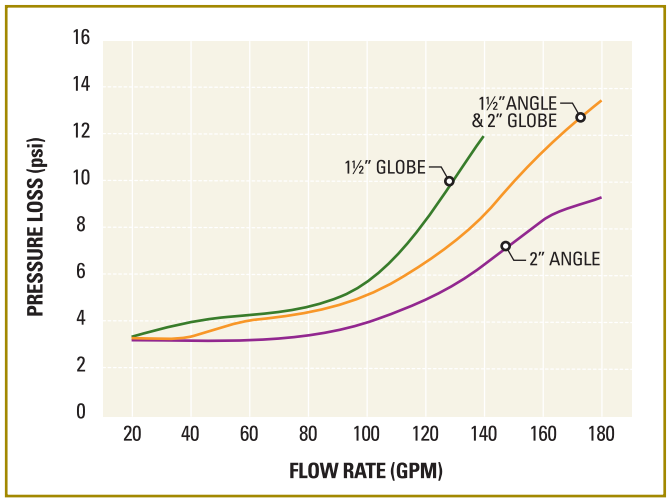
1" GLOBE ELECTRIC CONTROL VALVE

2" ANGLE ELECTRIC CONTROL VALVE

¾" & 1" MODELS FLOW RATE VS. PRESSURE LOSS



1½" & 2" MODELS FLOW RATE VS. PRESSURE LOSS



¾" & 1" MODELS FLOW RATE AND PRESSURE LOSS

	PRESSURE LOSS (psi)	
FLOW (GPM)	¾" GLOBE	1" GLOBE
2	2.5	2
4	3	2.5
8	4	3.4
12	4.1	3.5
16	4.4	3.9
20	5.5	4.1
24	7.5	4.7
28	8.5	5.4
32	-	6.5
36	-	8
40	-	9.5
44	-	11.5

1½" & 2" MODELS FLOW RATE AND PRESSURE LOSS

	PRESSURE LOSS (psi)			
FLOW (GPM)	1½" GLOBE	1½" ANGLE	2" GLOBE	2" ANGLE
20	3.3	3.3	3.3	3.3
40	4.0	3.3	3.3	3.3
60	4.3	4.0	4.0	3.3
80	4.5	4.3	4.3	3.6
100	5.5	5.0	5.0	4.1
120	8.5	6.5	6.5	5.0
140	12.0	8.5	8.5	6.5
160	-	-	11.5	8.5
180	-	-	13.5	9.5

CONTROLLER TO VALVE MAXIMUM WIRE LENGTHS

GAUGE	LENGTH
12	6,800'
14	4,300'
16	2,700'
18	1,700'
20	1,000'

ORDERING INFORMATION

DESCRIPTION	SIZE	MODEL NUMBER	ITEM NUMBER
SERIES 80 VALVES WITH STANDARD 24VAC	¾"	LVET.75GH2	00135-000995
	1"	LVET1GH2	00135-001005
	1 ½"	LVET1.5GH2	00135-001015
	2"	LVET2GH2	00135-001016
	1 ½" A	LVET1.5GH2-AN	00135-001025
	2" A	LVET2GH2-AN	00135-001026

A = ANGLE CONFIGURATION

IRON & BRONZE VALVES

APPLICATIONS

- Residential, institutional, commercial, municipal, golf
- Functions:
  - Electric (Master Valve)
  - Pressure Reducing
  - Pressure Sustaining
  - Quick Relief
  - Pump Control

SPECIFICATIONS

For ELECTRIC Valves:

- Volts: 24VAC standard ± 10% voltage
- Optional: 24VDC, 12VDC, 12VDC-latching, 120VAC

MATERIALS

- Nuts, bolts and washers: Stainless Steel
- Body and bonnet: Cast bronze or iron
- Spring: Stainless Steel
- Diaphragm assembly: Natural Rubber. (EPDM and Nitril available on request)

FEATURES & BENEFITS

CAST IRON

Durable, high pressure valves up to 235 psi.

BRONZE - RESISTS CAVITATION

Where extreme flow velocities and high pressure differentials exist.

LOWEST FRICTION LOSS IN THE INDUSTRY

Unique design allows a straight flow pattern. The valve allows free passage in the fully open valve with minimal headloss at very high flows.

CONSTRUCTED OF MINIMAL PARTS

Structural simplicity and low maintenance.

EQUIPPED WITH DIRECT SEALING DIAPHRAGM

There are no shafts, bearings or seals to corrode and there is no wear and tear by dirty abrasive water or chemicals. The diaphragm in the only moving part.

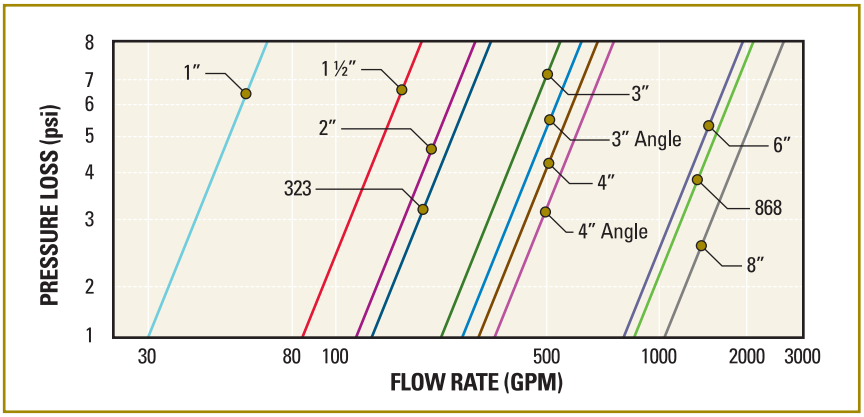
SUPERB PRESSURE REGULATION

Valves can be used for regulating no flow to maximum flow with no need for additional throttling devices or bypass valves.

BRONZE THREADED VALVE
(QUICK RELIEF VALVE SHOWN)

CAST IRON FLANGED VALVE
(PRESSURE REDUCING VALVE SHOWN)

FLOW RATE VS. PRESSURE LOSS



Cv TABLE	1"	1 ½"	2"	323	3"	4"	6"	868	8"
FLOW FACTOR (Cv) IN GPM	20	75	110	117	200	260	700	780	930

HYDRAULIC SPECIFICATIONS	1"	1 ½"	2"	323	3"	4"	6"	868	8"
Maximum Recommended Flow Rate Continuous Valve (18 feet per second - GPM)	44	110	180	260	400	700	1,500	1,500	2,100
Nominal Recommended Flow Rate Continuous Valve (8 feet per second - GPM)	22	50	80	120	176	330	700	700	960
Maximum Recommended Flow Rate Intermittent Valve (49 feet per second - GPM)	118	300	485	485	1,080	1,915	4,200	4,200	5,770
Minimum Flow (GPM)	<1	<1	<1	<1	<1	<1	<1	<1	<1
Flow Factor (Cv)	20	75	110	117	200	260	700	780	930
Operating Pressure Range High Pressure Diaphragm (psi)	17-230	17-230	21-230	21-230	21-230	17-230	21-230	21-230	10-230
Operating Pressure Range Low Pressure Diaphragm (psi)	7-145	7-70	10-145	10-145	10-145	6-145	7-145	7-145	3-145

AVAILABLE MODELS

CONNECTION →	GLOBE THREADED	GLOBE THREADED	GLOBE FLANGED	GLOBE GROOVED	ANGLE THREADED	ANGLE THREADED	ANGLE FLANGED
MATERIAL →	CAST IRON	BRONZE	CAST IRON	CAST IRON	BRONZE	CAST IRON	CAST IRON
AVAILABLE SIZES → 1"		✓					
1 ½"	✓	✓		✓	✓		
2"	✓	✓	✓	✓	✓		
323	✓	✓		✓	✓	✓	
3"	✓	✓	✓	✓		✓	✓
4"			✓	✓			✓
6"			✓	✓			✓

*For valve function configuration and ordering information please refer to Landscape & Turf Price List.
323 connection: 3" inlet, 2" body, 3" outlet
8" - 24" valves are available in cast iron flange configuration.

HYDROMETERS

Combination
Master Valve
and Flow Sensor

APPLICATIONS

- For commercial, institutional and sports field irrigation applications
- Ideal for retrofits
- Designed for high pressure, remote control applications
- Water meter can be used to communicate with irrigation controllers and central control units
- Valve can be used as a remote master valve for automated operation
- Pilot options: manual electric and manual electric pressure reducing

SPECIFICATIONS

- Sizes: 1 ½", 2", 3", 4", 6" and 8"
- Maximum working pressure: 235 psi
- Body: Cast iron, polyester coated
- Valve diaphragm: Reinforced natural rubber
- Flanges: Drilled according to ANSI specification
- Standards: EEC approval (class A)

FEATURES & BENEFITS

GLOBE CONFIGURATION WITH BUILT-IN STRAIGHTENING VANE

Requires no straight pipe installation - saving space.

± 2% ACCURACY ACROSS FLOW RANGES

No more false alarms.

RUGGED, HEAVY DUTY CONSTRUCTION

Reliable performance - 235 psi rated.

REGISTERS ARE STAINLESS STEEL/GLASS ENCAPSULATED

Guaranteed against fogging due to moisture.

CONFIGURED WITH ANY COMBINATION OF PILOT CONTROL

Manual electric and pressure reducing manual electric. Normally open or normally closed.

DOUBLE-CHAMBERED VALVE

Provides quick acting and positive opening and closing.

SUB METERING

Meter dedicated to landscape irrigation water.

GLOBE HYDROMETER

PERFORMANCE DATA

		LOWEST FLOW WITHIN ± 5% ACCURACY	LOWEST FLOW WITHIN ± 2% ACCURACY	NOMINAL FLOW WITHIN ± 2% ACCURACY	MAXIMUM FLOW WITHIN ± 2% ACCURACY
SIZE	1 ½"	1.8 GPM	4.4 GPM	44 GPM	55 GPM
	2"	5.3 GPM	20 GPM	66 GPM	95 GPM
	3"	14 GPM	53 GPM	176 GPM	220 GPM
	4"	21 GPM	79 GPM	264 GPM	380 GPM
	6"	53 GPM	198 GPM	660 GPM	860 GPM
	8"	97 GPM	357 GPM	1,189 GPM	1,500 GPM

Reed Switch (RS) - dry contact or a simple switch closure for communicating with controllers.

Photo Diode High Frequency (PDH) - photo coupler provides a high frequency pulse output for communicating with controllers.

COMPATIBILITY WITH CONTROL SYSTEMS

Netafim hydrometers are compatible with many controllers. For the most up-to-date information on compatibility with other manufacturer's controllers please visit the landscape hydrometer page on our web site at www.netafimusa.com.

ORDERING INFORMATION - MANUAL ELECTRIC

FLOW RANGE		METER SIZE	CONNECTION	REGISTER OUTPUT TYPE	PULSE PER GALLON	GALLONS PER PULSE	MODEL NUMBER
MIN GPM ± 5%	MAX GPM ± 2%						
1.8	55	1 ½"	MALE PIPE THREAD	RS	1	1	LHM15TG1-MEL
				PDH	187.900	0.0053	LHM15TG0053-MEL
5.3	95	2"	FEMALE PIPE THREAD	RS	1	1	LHM2TG1-MEL
				PDH	117.000	0.0085	LHM2TG0085-MEL
14	220	3"	FLANGED	RS	1	1	LHM3FG1-MEL
				PDH	48.710	0.0205	LHM3FG0205-MEL
21	380	4"	FLANGED	RS	1	1	LHM4FG1-MEL
				PDH	17.933	0.0556	LHM4FG0556-MEL
53	860	6"	FLANGED	RS	0.1	10	LHM6FG10-MEL
				PDH	5.747	0.1741	LHM6FG1739-MEL
97	1,500	8"	FLANGED	RS	0.1	10	LHM8FG10-MEL
				PDH	3.152	0.317	LHM8FG317-MEL

Netafim Hydrometers are standard in a manually closed configuration. To order Normally Open (NO) configurations add -NO to the end of the model number.

For example: When ordering a 8" Flanged Photo-Diode (PD) Normally Open Hydrometer, use Model Number LHM8FG317-MELNO

Additional ordering information can be found in the Netafim Landscape Price List and on the website at www.netafimusa.com

LOW VOLUME CONTROL ZONE KITS

Low Flow and High Flow Zones

APPLICATIONS

- Designed for all dripperline, drip and micro-spray zones
- For zones between 0.25 and 17.6 GPM

SPECIFICATIONS

LOW FLOW PRESSURE REGULATOR
- Flow range: 0.25 - 4.4 GPM
- Regulated pressure: 42 psi

HIGH FLOW PRESSURE REGULATOR
- Flow range: 4.5 - 17.6 GPM
- Regulated pressure: 45 psi
- Maximum pressure rating: 145 psi

FILTER
- Mesh: 140
- Flow range: 0 - 17 GPM
- Maximum pressure rating: 140 psi

VALVE
- Low flow range: 0.01 to 44 GPM
- Maximum pressure rating: 145 psi

PVC REDUCING BUSHING
- ¾" FPT x 1" MPT

SOLENOID
- 24VAC, 60 Hz, ±10% voltage;
- 0.22 A inrush current, 0.095 A holding current

FEATURES & BENEFITS

ASSEMBLED VALVE, FILTER AND PRESSURE REGULATOR

Saves installation and labor costs.

COMPACT DESIGN

Fits into standard rectangular valve box.

WIDE RANGE OF FLOW RATES

For a variety of applications.

PROVEN DISC FILTER DESIGN

Provides superior filtration with 25 square inches of filtering surface.

AVAILABLE IN TWO MODELS

With a control valve or with no control valve.

Pre-assembled Valve, Filter and Pressure Regulator
in one convenient kit

LOW FLOW
WITH CONTROL VALVE

HIGH FLOW
WITH CONTROL VALVE

LOW FLOW
WITH NO CONTROL VALVE

HIGH FLOW
WITH NO CONTROL VALVE

SELECTION GUIDE		LOW FLOW		HIGH FLOW	
DRIPPERLINE FLOW RATE*	SPACING*	MIN. LENGTH PER ZONE	MAX. LENGTH PER ZONE	MIN. LENGTH PER ZONE	MAX. LENGTH PER ZONE
0.26 GPH	6″	29′	508′	519′	2,031′
	12″	58′	1,015′	1,038′	4,062′
	18″	87′	1,523′	1,558′	6,092′
0.4 GPH	6″	19′	330′	338′	1,320′
	12″	38′	660′	675′	2,610′
	18″	56′	990′	1,013′	3,960′
0.6 GPH	12″	25′	440′	450′	1,760′
	18″	38′	660′	675′	2,640′
	24″	50′	880′	900′	3,420′
0.9 GPH	12″	17′	293′	300′	1,173′
	18″	25′	440′	450′	1,760′
	24″	33′	587′	600′	2,347′

*Not all dripperline products are available in all flows and spacings.

ORDERING INFORMATION

DESCRIPTION	MODEL NUMBER	ITEM NUMBER
LOW FLOW, LOW VOLUME CONTROL ZONE KIT WITH CONTROL VALVE	LVCZS8010075-LF	76601-005322
LOW FLOW, LOW VOLUME CONTROL ZONE KIT WITHOUT CONTROL VALVE	LVCZNV10075-LF	76601-005330
HIGH FLOW, LOW VOLUME CONTROL ZONE KIT WITH CONTROL VALVE	LVCZS8010075-HF	76601-005302
HIGH FLOW, LOW VOLUME CONTROL ZONE KIT WITHOUT CONTROL VALVE	LVCZNV10075-HF	76601-005310

LINE FLUSHING VALVES

APPLICATIONS

- Drip irrigation systems
- Clean or dirty water

SPECIFICATIONS

- Flushing water volume: approx. 1 gallon per cycle
- Maximum zone flow rate per valve flush: 15 GPM
- Minimum pressure required: 1.5 psi
- Maximum pressure: 57 psi

Diaphragm in open position allows flushing.
As irrigation starts, valve flushes out dirt particles in the open position.
After flushing, the valve closes and normal system operation begins.

FEATURES & BENEFITS

FLUSHING REDUCES SEDIMENT BUILD-UP

Eliminates clogging. Promotes long-term performance of the drip irrigation system.

AUTOMATIC CLEANING OPERATION

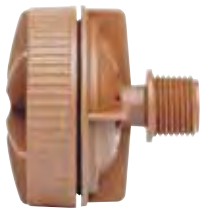
Eliminates periodic manual flushing.

UNIQUE DESIGN REACTS TO FLOW, NOT PRESSURE

Allows operation even at full line pressure.

DISASSEMBLES FOR WINTERIZATION "BLOWOUT"

Protects your drip system.



AUTOMATIC FLUSH VALVE ½" MPT INLET
Model TL050MFV-1
Item 32000-007860

AUTOMATIC FLUSH VALVE INSERT INLET
Model TLFV-1
Item 32000-007920

MPT = Male Pipe Thread

AIR/VACUUM RELIEF VALVE

APPLICATIONS

- Install in subsurface systems that require air/vacuum relief

SPECIFICATIONS

- Maximum pressure: 140 psi
- ½" male pipe thread connection
- Not required for on-surface installations

FEATURES & BENEFITS

ELIMINATES AIR

Allows air to be expelled from irrigation system.

ELIMINATES VACUUM

Prevents contaminates from being drawn into the piping system.

NON-CORROSIVE

Durable, withstands the toughest environments.

AIR/VACUUM RELIEF VALVE ½" MPT
Model TLAVRV
Item 71000-016720

PRESSURE REGULATORS

APPLICATIONS

- All irrigation systems

SPECIFICATIONS

- ¾" low flow model: 0.25 to 4.4 GPM
- ¾" high flow model: 4.5 to 17.6 GPM
- 1 ½" model: 11 to 35 GPM
- Other models available up to 175 GPM
- Maximum operating pressure: 145 psi

FEATURES & BENEFITS

EASY INLINE ASSEMBLY

Low flow model - female inlet/outlet. ¾" high flow model - female inlet and male outlet.

SEALED REGULATING MODULE

Available on ¾" high flow and 1 ½" pressure regulators.

BUILT-IN INDICATOR ON ¾" HIGH FLOW AND LARGER MODELS

Indicates when proper outlet pressure is achieved.

¾" LOW FLOW

¾" HIGH FLOW

1 ½"

Exploded view of ¾" High Flow Valve with replaceable Pressure Regulating module.

ORDERING INFORMATION

DESCRIPTION	psi	GPM	MODEL NUMBER	ITEM NUMBER
LOW FLOW INLINE ¾" FPT INLET X FPT OUTLET	15	0.25 to 4.4	PRV075LF15V2K	00135-000480
	20		PRV075LF20V2K	00135-000490
	25		PRV075LF25V2K	00135-000500
	35		PRV075LF35V2K	00135-000510
	42		PRV075LF42V2K	00135-000520
HIGH FLOW ¾" FPT INLET X MPT OUTLET	15	4.5 to 17.6	PRV075HF15V2K	00135-000430
	20		PRV075HF20V2K	00135-000440
	25		PRV075HF25V2K	00135-000450
	35		PRV075HF35V2K	00135-000460
	45		PRV075HF45V2K	00135-000470
1 ½" MPT X MPT	15	11 to 35	PRV15015V2K	00135-000530
	20		PRV15020V2K	00135-000540
	25		PRV15025V2K	00135-000550
	35		PRV15035V2K	00135-000560
	45		PRV15045V2K	00135-000570
REPLACEMENT PRESSURE REGULATING MODULE	15		PRVU15V2K	00135-000595
	20		PRVU20V2K	00135-000600
	25		PRVU25V2K	00135-000610
	35		PRVU35V2K	00135-000620
	45		PRVU45V2K	00135-000630

For larger Pressure Regulators (above 35 GPM), call Customer Service at (888) NETAFIM.

FPT = Female Pipe Thread
MPT = Male Pipe Thread

IN-LINE CHECK VALVE

APPLICATIONS

- Prevents back flow of water and drainage of the system into low areas
- Eliminates the need for system water refill at the beginning of the next irrigation cycle
- For irrigating slopes where draining of the headers and laterals is common

SPECIFICATIONS

- Flow rate: 0.9 - 4.4 GPM
- Closing pressure: 5.8 psi (13.4 feet column of water)
- Opening pressure: 10.2 psi

FEATURES & BENEFITS

MANUFACTURED FROM DURABLE MATERIALS

For reliable operation.

LARGE INLET OPENING

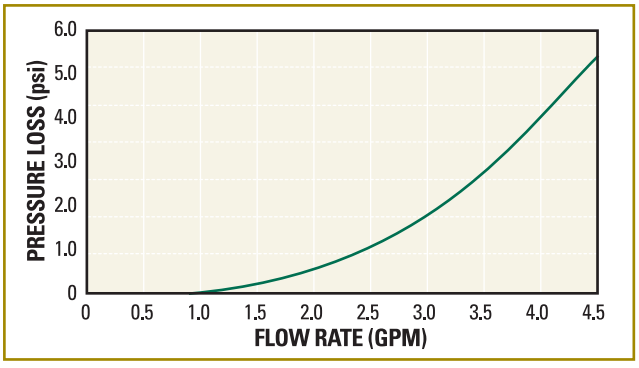
Reduces headloss.

WIDE FLOW RANGE

For use in a number of applications.

IN-LINE CHECK VALVE
½" MPT
Model TLCV050M1-B
Item 32000-003565

FLOW RATE VS. PRESSURE LOSS



PRESSURE LOSS

MODEL	FLOW RATE (GPM) VS. PRESSURE LOSS (psi)								
	0.5	1	1.5	2	2.5	3	3.5	4	4.5
TLCV050M1	-	0.22	0.54	0.96	1.55	2.25	2.99	4.04	-

OPERATION/PRESSURE INDICATOR STAKES

TECHLINE CV MISTER

APPLICATIONS

- Where a very fine "fogging" effect is desired. Ideal for delicate plantings
- To add visual effects to the landscape or enhance the effect of outdoor lighting

SPECIFICATIONS

- Fogging rate: less than 2.0 GPH, creating a moistened area approximately 2' outward from nozzle
- Check Valve: opens at 22 psi, closes at 10 psi
- Includes: fogging nozzle, check valve, anchoring stake, tubing adapter

FEATURES & BENEFITS

FOGGING NOZZLE EMITS A FINE MIST

Indicates system operation and minimum required system pressure.

CREATES A MOISTENED AREA SURROUNDING THE FOGGER

Showing zone operation.

OPERATION

- Techline CV drippers open at 14.7 psi line pressure
- Indicator stake's check valve opens and activates the fogging nozzle at 22 psi line pressure
- Fogging nozzle maximum flow rate: 2.0 GPH @ 60 psi

TECHLINE CV MISTER
Model 10-CV-01
Item 00135-001100

OPERATION FLAG

SPECIFICATIONS

- Down flag position (closed): 4.5 psi or lower
- Halfway flag position (45˚): 7 psi
- Upright flag position (90˚ or open): 10 psi or higher
- Includes: indicator flag, anchoring stake, tubing adapter

FEATURES & BENEFITS

FLAG RAISES TO INDICATE SYSTEM OPERATION

With just a minimum of 10 psi operating pressure.

OPERATION

- Flag rises from pressure when the zone is turned on
- At 10 psi and higher, the flag is at a 90˚ angle
- At 7 psi, the flag is at a 45˚ angle
- When the pressure drops below 4.5 psi or the zone is off, the flag is in a down position

OPERATION FLAG
Model 10-F-01
Item 32000-002600

PRESSURE GAUGES

APPLICATIONS

- Determine operating pressures of
  - Valves
  - Filters
  - Hydrometers
  - Drippers
  - Dripperlines
- Works in a wide range of harsh environments

SPECIFICATIONS

- Stainless steel glycerine filled presure gauge
- Lubricating the movement of internal parts extends the life span of the gauge

SHRADER VALVE ADAPTER

PRESSURE GAUGE 30
(0 TO 30 psi)

SHRADER VALVE
(WITH 1/8" MPT)

PRESSURE GAUGE 100
(0 TO 100 psi)

PRESSURE GAUGE NEEDLE

ORDERING INFORMATION

DESCRIPTION	MODEL NUMBER	ITEM NUMBER
0-30 psi LIQUID FILLED PRESSURE GAUGE	GAUGE30	00135-000720
0-100 psi LIQUID FILLED PRESSURE GAUGE	GAUGE100	00135-000710
SHRADER VALVE WITH 1/8" MPT	61APS1/8	76601-001050
SHRADER VALVE ADAPTER	61ACG	76601-001060
PRESSURE GAUGE NEEDLE	6809091	75600-004400

MPT = Male Pipe Thread

DRIPPERLINE CALCULATIONS

ESTIMATING TOTAL DRIPPERLINE LENGTH (FEET)

$$\text{Feet} = \frac{\text{Irrigated Area (square feet)} \times 12}{\text{Minimum Row Spacing (inches)}}$$

ESTIMATING TOTAL FLOW RATE (GPM)

$$\text{Total Flow Rate (GPM)} = \frac{\left(\frac{\text{Irrigated Area (square feet)} \times 144}{\text{Dripper Spacing (inches)} \times \text{Dripperline Spacing (inches)}}\right) \times \text{Dripper Flow Rate (GPH)}}{60}$$

ESTIMATING TOTAL NUMBER OF DRIPPERS

$$\text{Total Number of Drippers} = \frac{\text{Dripperline Length (feet)} \times 12}{\text{Dripper Spacing (inches)}}$$

ESTIMATING FLOW RATE (GPM)

$$\text{Total Flow (GPM)} = \frac{\text{Total Drippers} \times \text{Dripper Flow Rate (GPH)}}{60}$$

ESTIMATING APPLICATION RATE (INCHES PER HOUR)

$$\text{Application Rate (inches per hour)} = \frac{231.1 \times \text{Dripper Flow Rate (GPH)}}{\text{Dripper Spacing (inches)} \times \text{Dripperline Spacing (inches)}}$$

SUBSURFACE LAYOUTS

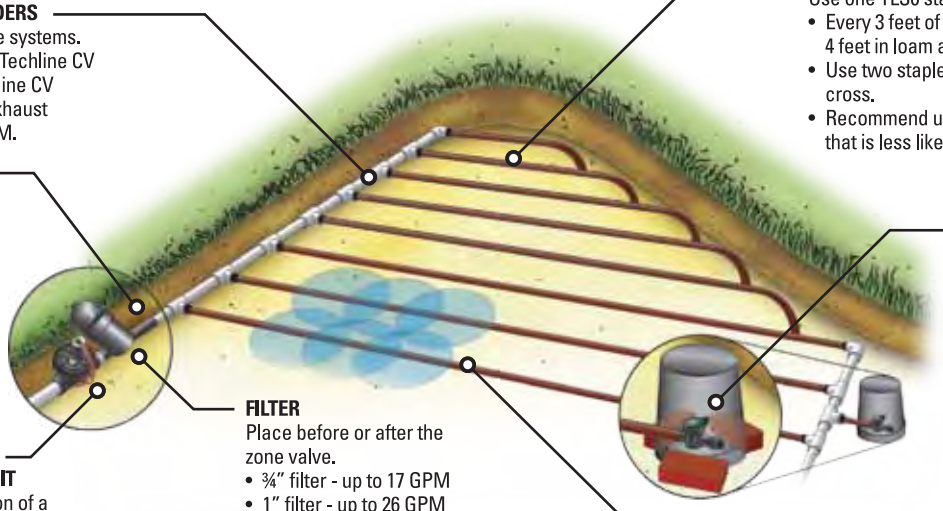
TYPICAL LAYOUTS FOR USE WITH TECHLINE® CV AND TECHLINE® RW

SUBSURFACE DESIGN LAYOUT

SUPPLY AND EXHAUST HEADERS
Most often used in subsurface systems. They may not be necessary if Techline CV is layed on-surface. Use Techline CV Blank Tubing as supply and exhaust headers on zones under 5 GPM.

PRESSURE REGULATOR (PRV)
Install after the zone valve and filter:
- Use PRV075LF45V2K from 0.25 - 4.4 GPM
- Use PRV075HF45V2K from 4.5 - 17.6 GPM
- Use PRV15045V2K from 11 - 35 GPM

LOW VOLUME CONTROL ZONE KIT
For easy installation of a valve/filter/PRV use Netafim's Low Volume Control Zone Kit. Two models are available with a pre-assembled 1" valve, ¾" filter and either a LF PRV (0.25 - 4.4 GPM) or HF PRV (4.5 - 17.6 GPM).



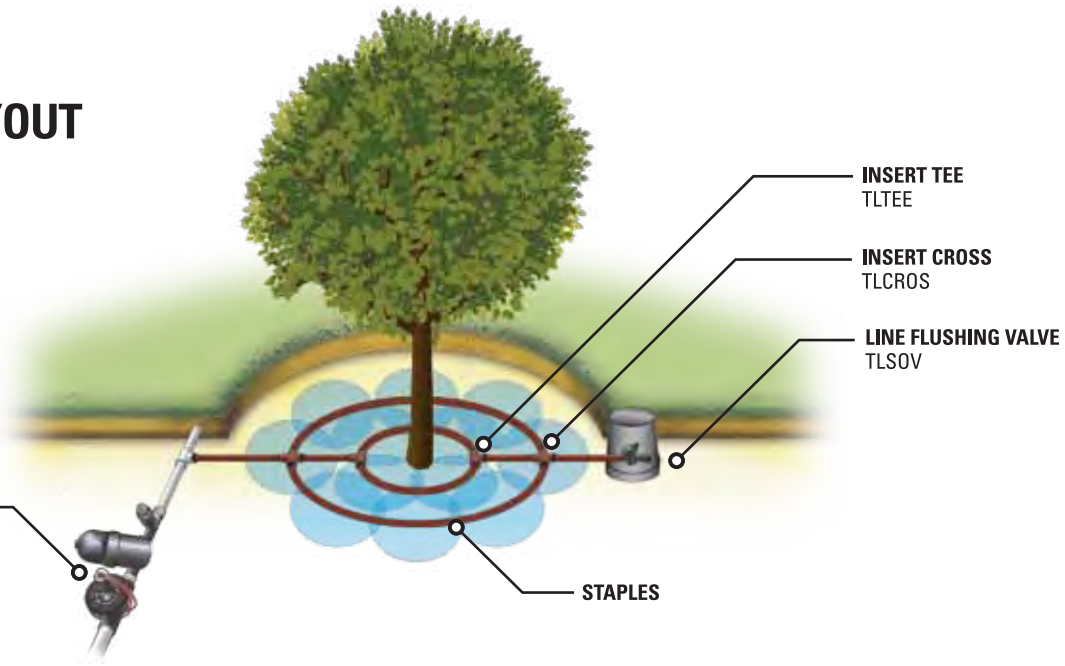
FILTER
Place before or after the zone valve.
- ¾" filter - up to 17 GPM
- 1" filter - up to 26 GPM
- 1 ½" filter - up to 35 GPM
- Use 120 or 140 mesh

Start rows of Techline CV 2" from hardscapes and 4" from softscapes.

STAPLES
Use one TLS6 staple for:
- Every 3 feet of Techline CV in sand, every 4 feet in loam and every 5 feet in clay.
- Use two staples over each tee, elbow or cross.
- Recommend use of a U-shaped staple that is less likely to pinch the dripperline.

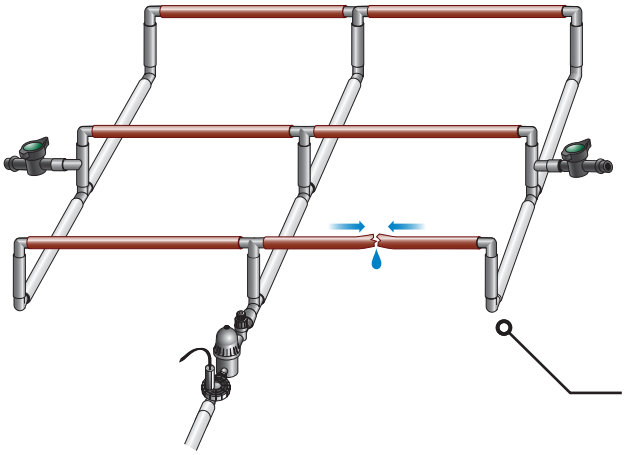
LINE FLUSHING VALVE
Use TLSOV or TLFIG8.
- Normally placed along exhaust header or at the point farthest away from the source.
- Install in a valve box with a gravel sump.
- An automatic line flushing valve may be used but some water may drain after zone shut down.

TREE RING LAYOUT



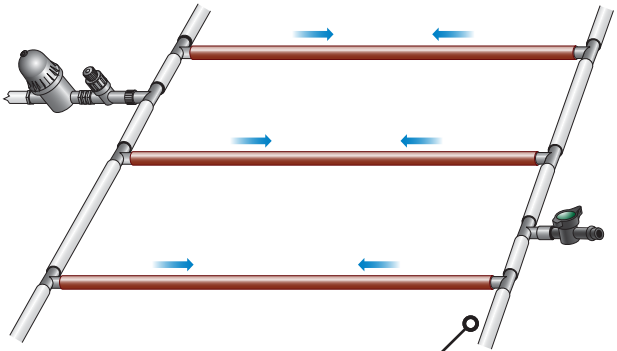
CENTER FEED

For applications in medians or island use center feed configuration for long narrow areas.



END FEED

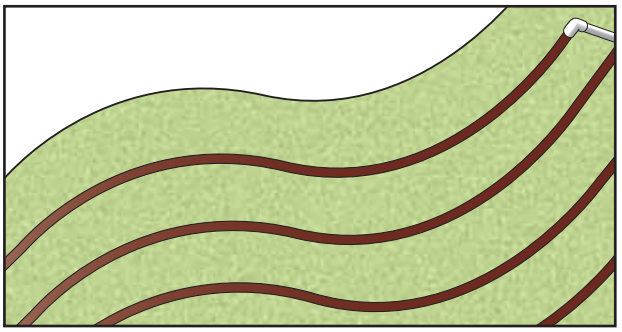
End feed configurations are generally used for short or medium length installations.



Use Techline CV Blank Tubing (TLCV) for supply and exhaust headers on zones less than 5 GPM.

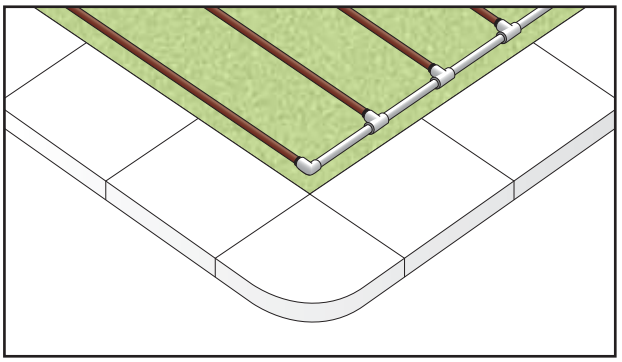
CONTOURS

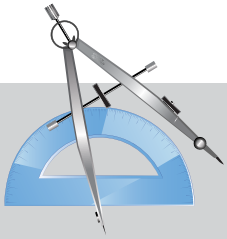
Dripperlines provide a flexible solution for irrigating around contoured areas and around confined planters or shrubs.



LATERAL PLACEMENT

Place laterals 2" from any hardscape or 4" from the outside of uncontained landscapes. Place laterals perpendicular to (across) slopes, if any.



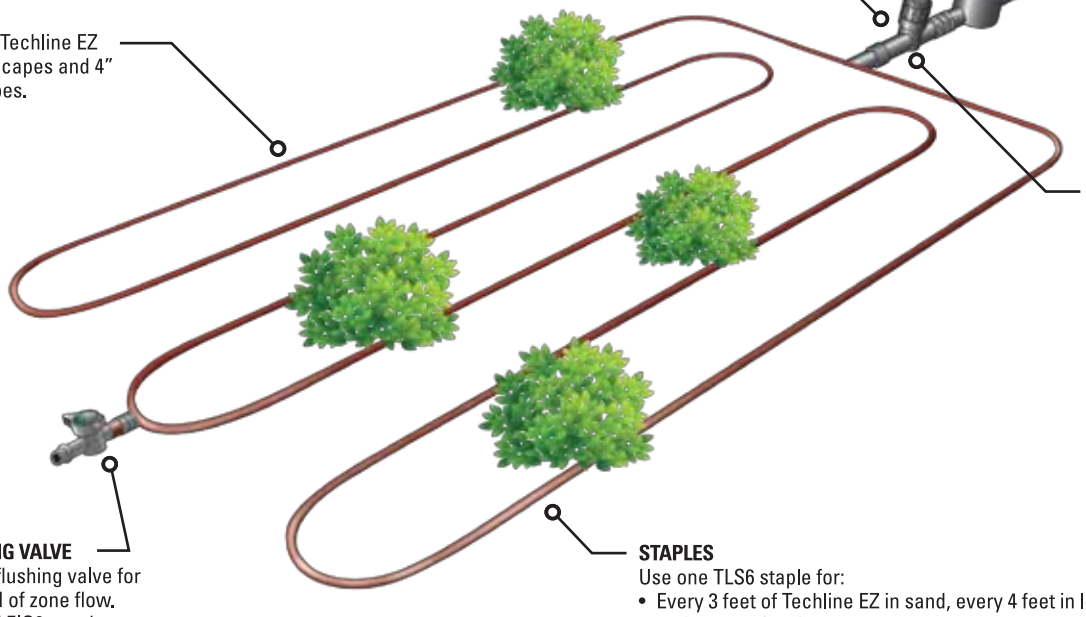


Netafim offers comprehensive design details, installation information and a dripperline calculator on our web site. To view this information, visit www.netafimusa.com/landscape and select the 'Resource' tab.

ON-SURFACE LAYOUTS

TYPICAL LAYOUT FOR USE WITH TECHLINE® EZ

ON-SURFACE DESIGN LAYOUT



FILTER
Place before or after the zone valve.
- ¾" filter - up to 17 GPM
- Use 120 or 140 mesh

LOW VOLUME CONTROL ZONE KIT
For easy installation of a valve/filter/PRV use Netafim's Low Volume Control Zone Kit. Two models are available with a pre-assembled 1" valve, ¾" filter and either a LF PRV (0.25 - 4.4 GPM) or HF PRV (4.5 - 17.6 GPM).

Start rows of Techline EZ 2" from hardscapes and 4" from softscapes.

PRESSURE REGULATOR (PRV)
Install after the zone valve and filter:
- Use PRV075LF25V2K from 0.25 - 4.4 GPM

LINE FLUSHING VALVE
Use one line flushing valve for every 15 GPM of zone flow.
- TLSOV or TLFIG8 may be substituted.
- Position as near as possible to the halfway point of the loop.
- Install in an area where flushing about one gallon of water will not cause flooding.

STAPLES
Use one TLS6 staple for:
- Every 3 feet of Techline EZ in sand, every 4 feet in loam and every 5 feet in clay.
- Use two staples over each tee, elbow or cross.
- Recommend use of a U-shaped staple that is less likely to pinch the dripperline.

Netafim offers comprehensive design details, installation information and a dripperline calculator on our web site. To view this information, visit www.netafimusa.com/landscape and select the 'Resource' tab.

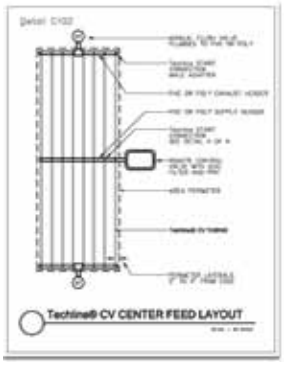
WEB RESOURCES

WE GIVE YOU THE TOOLS YOU NEED TO SUCCEED

DESIGN CALCULATOR

If you know the square footage of the area you want to irrigate, whether it is a garden or turfgrass, and what type of soil, the design calculator will provide the following information:

- Estimated amount of dripperline (in feet)
- The range of inches apart the rows can be
- The distance between drippers
- The total number of drippers in the zone
- The flow of the zone in GPM
- The application rate of water in inches per hour based on the row spacing chosen
- The amount of time to apply 1/4" of water based on the row spacing chosen



DESIGN DETAILS

Easy to download and use, our design details show line drawings of our products and their typical layouts in multiple file formats.

DESIGN GUIDES

Netafim Product Design Guides walk you through the design process step by step. Includes important information about best practices and our recommendations.

TECHNICAL SHEETS

All the technical information you need about a Netafim product. The technical sheets and brochures give you the complete details about our products in a format that is easy to download and share.

ORDER PRINTED LITERATURE

Use the Literature Request Form to order additional copies of our catalog, other printed design and product information or a complete Landscape CD.

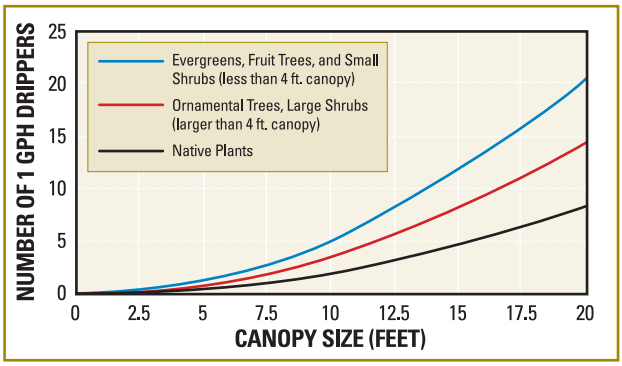
RESOURCES AT YOUR FINGERTIPS WWW.NETAFIMUSA.COM

POINT SOURCE DESIGN

IRRIGATING TREES, SHRUBS AND NATIVE PLANTS AT WIDE AND RANDOM SPACINGS

For trees, shrubs and native plants with wide and/or random spacing requirements, point source drip irrigation is the perfect alternative. In landscape areas that are sparsely planted, irrigating within the plant's canopy conserves water and inhibits weed growth in the areas with no plants. Depending on the plant's canopy size and soil type, the number of point source drippers can be easily determined.

SIMPLIFIED DRIP DESIGN GRAPH



$$\text{Number of Drippers per Plant} = \frac{\text{Plant Canopy (square feet)} \times 0.75}{\text{Wetted Area per Dripper (square feet)}}$$

For example:

- Tree with 16 foot canopy in a loam soil.
- Plant root zone = $(16 \text{ feet})^2 \times 0.7854 =$ $56 \times 0.7854 = 201$ square feet.
- Number of 1.0 GPH emitters required = $201 \times .75/24 =$ $150.8/24 = 6.28 = 6$ - 1.0 GPH drippers.

WETTED DIAMETER & WETTED AREA PER DRIPPER (PER SOIL TYPE)

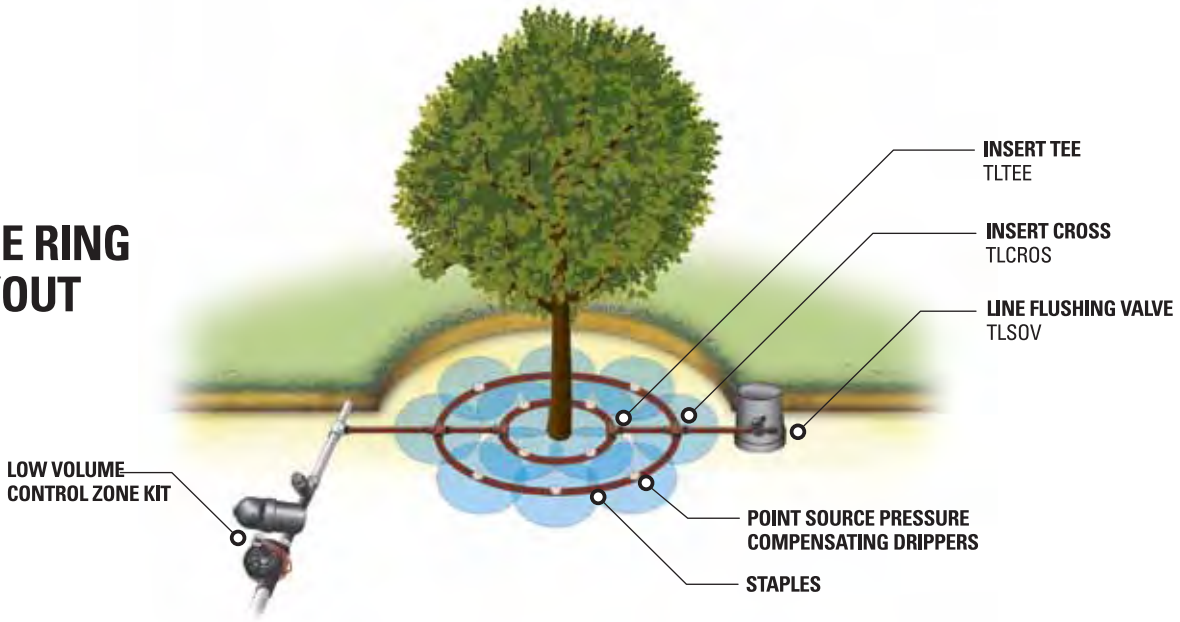
DRIPPER FLOW RATE	WETTED DIAMETER PER DRIPPER (FT.)			WETTED AREA PER DRIPPER (SQ. FT.)		
	CLAY SOIL	LOAM SOIL	SANDY SOIL	CLAY SOIL	LOAM SOIL	SANDY SOIL
0.5 GPH	5 - 7	3 - 5	2 - 3	20-38	7-20	3-7
1.0 GPH	7 - 8.	5 - 6	3 - 3.5	38-50	20-28	7-10
2.0 GPH	8 - 9.	6 - 7	3.5 - 4	50-64	28-38	10-13

Dripper flow rates have an impact on the soil's ability to absorb water. The lighter the shaded box indicates the more desirable flow rate given the soil selection.

IRRIGATION DURATION

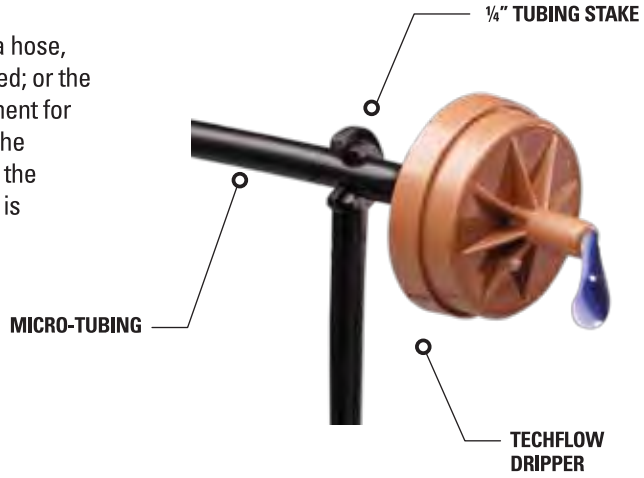
CLIMATE	RUN TIME
VERY COOL	1.3 HOURS
COOL	2.6 HOURS
MODERATE	3.5 HOURS
HOT	4.2 HOURS
HIGH DESERT	5.1 HOURS
LOW DESERT	5.9 HOURS

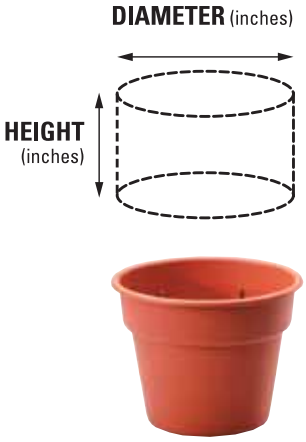
TREE RING LAYOUT



IRRIGATING CONTAINERS

The watering of containers correctly can be difficult when using a hose, sprinklers or sprays. Either not enough or too much water is applied; or the frequency of watering is inefficient to promote a healthy environment for the plant to thrive. By using a point source drip irrigation system, the dripper can easily be installed in each container and operated for the correct time and frequency to insure the correct amount of water is applied for healthy plant growth.





$$\text{Container Size (gallons)} = \frac{\text{Surface Area (square inches)} \times \text{Height (inches)}}{231}$$

$$\text{Surface Area} = \text{Diameter (inches)} \times .7854$$

CONTAINER IRRIGATION (DRIPPER FLOW RATE & RUN TIME)

CONTAINER SIZE (GALLONS)	DRIPPER FLOW (GPH)	SANDY SOIL	LOAM SOIL	CLAY SOIL	POTTING SOIL
1	0.5	3 MIN.	5 MIN.	11 MIN.	2 MIN.
2	0.5	6 MIN.	10 MIN.	20 MIN.	4 MIN.
5	1.0	9 MIN.	15 MIN.	30 MIN.	6 MIN.
15	1.0	25 MIN.	40 MIN.	90 MIN.	18 MIN.
25	1.0	40 MIN.	75 MIN.	150 MIN.	35 MIN.

CONTAINER IRRIGATION (FREQUENCY)

CLIMATE	SANDY SOIL	LOAM SOIL	CLAY SOIL	POTTING SOIL
VERY COOL	2 DAYS	3 DAYS	8 DAYS	2 DAYS
COOL	1 ½ DAYS	2 DAYS	6 DAYS	DAILY
MODERATE	1 ½ DAYS	2 DAYS	6 DAYS	DAILY
HOT	DAILY	2 DAYS	5 DAYS	DAILY
HIGH DESERT	DAILY	1 ½ DAYS	4 DAYS	DAILY
LOW DESERT	DAILY	DAILY	3 DAYS	DAILY

WARRANTY INFORMATION

BASIC MANUFACTURER'S LIMITED WARRANTY
Products sold and/or manufactured by Netafim Irrigation, Inc. (Netafim USA) are warranted to be free from original defects in material and workmanship for a period of one (1) year from the date of delivery.

LIMITED WARRANTY FOR DRIPPERS
Netafim drippers (on-line & integral) are warranted to be free from original defects in materials and workmanship for a period of five (5) years from the date of shipment from Netafim.

LIMITED WARRANTY FOR DRIPPERLINES
Netafim warrants any polyethylene tubing and dripperlines (Techline® CV, Techline® RW and Techline® EZ) sold to be free from environmental stress cracking for a period of seven (7) years from the date of original delivery.

LIMITED WARRANTY FOR FILTERS
Manual disc filters are warranted to be free from original defects in materials and workmanship for a period of one (1) year. Automatic disc filters are warranted to be free from original defects in materials and workmanship for a period of five (5) years. This warranty specifically excludes gaskets, diaphragms, O-rings and seals which are subject to the basic one (1) year warranty.

LIMITED WARRANTY FOR VALVES & HYDROMETERS
Valve and water meter bodies are warranted to be free from original defects in materials and workmanship for a period of five (5) years. Water meter metering components (register and metering assembly) are warranted for three (3) years. Valve and Hydrometer diaphragms are warranted for two (2) years.

NETAFIM™

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FRESNO, CA 93727

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FAX (800) 695-4753

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